Universität Zürich[UZH]

From *AirLand Battle* to *AirSea Battle*:
The image of war in the United States Army and Air Force from 1980 to 2012

Thesis

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Index

List of contents

Introduction

Topic

> *"No state on the planet Earth has gone through as many so-called 'revolutions in warfare' and 'transformations' as the United States. No state has expended the resources comparable to the US in the search for the panacea for war."*[1]

Looking at the United States' military history, especially since the two World Wars, it seems that the Air Force and Army have tried (as did the other services) ever since to find an overarching concept of how to fight and win the perfect war from a military perspective. Technology and its application in the forms of fires, maneuverability, intelligence or communications tools were most often center stage in discussions on war and warfare. For example, when General William E. DePuy took over the United States Army's newly established *Training and Doctrine Command* (TRADOC)[2] in 1973, he wanted to adjust the Army and its doctrine to a big *conventional*[3] land war, which the Army's leaders intended to emphasize after the United States' Vietnam experience. To gain this effect, the *Field Manual* (FM) *100-5 Operations*[4], the Army's main doctrine document, would then be rewritten. But not only had the Vietnam War, also the Arab-Israeli war in 1973 influenced the new doctrine. At that time *"modern"* land war was imagined to be fast, intensive, brutal and deadlier than ever. Tanks and mechanized infantry from both sides would meet each other in gigantic battles, supported by artillery and air forces. But mass, precision, reaction times, range and firepower of modern weapon systems had already grown much since World War Two and the Korean War. According to analysis done by TRADOC, the Warsaw Pact forces' weapons were numerous and excellent, as was their doctrine; this would allow the Pact to go against *North Atlantic Treaty Organization* (NATO) defenses with mass and speed. In DePuy's eyes, NATO defense lines in Europe would not stand against a Soviet attack, and

[1] Lewis, Adrian R.: The American Culture of War: The History of U.S. Military Force from World War II to Operation Enduring Freedom, Second Edition, New York, 2012, p. 377.

[2] The purpose of TRADOC is to oversee training of United States Army forces and the development of operational doctrine.

[3] In common understanding, *conventional* forces or war or tactics means that each opposing side is well-defined and fighting using weapons that primarily target the other side's military. Chemical, biological or nuclear weapons are therefore understood to be *unconventional* weapons, and *Special Operations Forces* (SOF) as *unconventionally* fighting.

[4] *Field Manual 100-5*, later on *3-0*, is one of the Army's two basic documents apart from *Field Manual 1*, The Army, and it is on top of the structure of regulations and *Manuals*. In terms of their shape and form, *Manuals* are handbooks containing detailed information for procedures important to soldiers serving in the field. They are usually available to the public and do as well contain images of procedures and weapons systems.

nuclear weapons on the tactical level would be considered too late. As a result large areas of Western Europe would be harmed.

The basic idea of the new concept, *Active Defense*, was to drill on modern weapons, which would help the United States' Armed Forces to stand against a Warsaw Pact onslaught despite numerical inferiority and to throw back enemy forces thanks to technological superiority. The *Big Five* were part of this range of weapons, comprising the main battle tank *M1 Abrams*, the medium transport helicopter *UH-60 Blackhawk*, the attack helicopter *AH-64 Apache*, the *Infantry Fighting Vehicle* (IFV) *M2/3 Bradley,* and the ground-based *Surface-to-Air Missile* (SAM) system *Patriot*. The description *Big Five* was nonofficial and developed over time.[5] But critique swiftly arose stating that DePuy's doctrine was suited primarily to a *conventional* war in Europe and not necessarily to other out-of-area conflicts, as well as being too much focused on the first battle of a looming war. Sample application of the new doctrine in exercises in Europe unveiled *Active Defense's* perceived faults: a battle that was difficult to coordinate because of many necessary lateral movements, predictable tactics, and piecemeal destruction by follow-on forces. There was a need for a new doctrine in which the fight at the front line was *simultaneously* and *coordinately* fought against follow-on enemy forces.

General Don A. Starry[6], who took over TRADOC in 1977, had seen possible problems with *Active Defense* in different exercises in Europe as commander of United States *V Corps*. Under his guidance FM *100-5* was rewritten again. In contrast to the earlier version, soldiers were not solely the operators of their machines; factors such as training, morale and adaptability were added to the *Manual*. *AirLand Battle*, as this edition of the *Manual* was also called, in principle differed not decisively from *Active Defense*; the difference could mainly be found in the principle of *"synchronization"*, on which *AirLand Battle* rested. The concept of *Deep Battle/Deep Attack*[7] should help the United States Army to destroy follow-on Warsaw Pact forces in collaboration with the Air Force; the whole battle should be coordinated on the newly introduced operational (or *Corps*) level.

AirLand Battle was developed further during the 1980s, resulting in the concept *AirLand Battle Future* (ALB-F). After experiences in the Second Gulf War in 1991, the *Revolution in*

[5] Mahnken, Technology, p. 130.

[6] Starry had been commander, *Armor Center and School* before; after his tenure at TRADOC, he became commander, *Readiness Command*, which prepared overseas deployments of United States Army forces.

[7] According to US-comprehension: *"effect"* primarily through fire into the *„depth"* of the battlefield. Cf. Leonhard, Robert R.: The art of maneuver: Maneuver-warfare theory and AirLand battle, Novato, 1991, p. 144.

Military Affairs (RMA), which was coined by military reformers, favored the Air Force increasingly. This resulted also in considerations for a future doctrine. An RMA includes changes of technological, organizational as well as doctrinal scope. Soviet military officers such as Nikolai Vasilyevich Ogarkov thought already in the 1970s that computers, satellites, long-range weapons or missiles would alter the character of war.[8] In the United States Army concepts such as *Network-Centric Warfare* (NCW)[9] or *termini,* like *Dominant Maneuver* and *Mass Effects* as well, became quite established. However, these new technologies entered the 1993 edition of FM *100-5* only in a limited way; the Cold War concepts still dominated.
The Air Force was different as it propagated its own concepts more aggressively after 1991 – before, the Air Force's mainstay had been nuclear warfare and support to the ground forces. Midway through the 1990s, Colonel John A. Warden III with his description of the *Enemy as a System* laid the cornerstone for a new concept called *Parallel Warfare*. Warden started from the premise that the United States could attack several strategically important points or targets of an enemy from the air and collapse his *system*. Warden drew up a plan for an air campaign against Iraq that would have applied his ideas, but it was not implemented.[10] In his essay about the *Effects-Based Operations* (EBO)[11] written in 2001, Lieutenant General David A. Deptula developed Warden's main idea further and postulated that the massive commitment of ground troops was no longer necessary thanks to the new technologies.

[8] Cf. Kievit, James / Metz, Steven: Strategy and the Revolution in Military Affairs: From Theory to Policy, United States Army War College, Strategic Studies Institute, June 27, 1995. The herein specifically addressed RMA was linked by United States analysts to the increasing digitalization and interconnection on the battlefield beginning with the Second Gulf War in 1991. Cf. Kievit, James / Metz, Steven: Strategy and the Revolution in Military Affairs: From Theory to Policy, United States Army War College, Strategic Studies Institute, June 27, 1995. Additional literature can be found in: Knox, MacGregor / Murray, Williamson: The Dynamics of Military Revolution 1300-2050, Cambridge, 2001; Toffler, Alvin / Toffler, Heidi: War and Anti-War – Survival at the Dawn of the 21st Century, London, 1994; Bunker, Robert J.: Generations, Waves, and Epochs – Modes of Warfare and the RMA, in: Airpower Journal, Spring 1996; Van Creveld, Martin: Technology and War - From 2000 B.C. to the Present, London, 1989 and Krepinevich, Andrew F.: Cavalry to Computer – The Pattern of Military Revolutions, In: The National Interest, Fall 1994.

[9] The *terminus* NCW was coined by Vice Admiral Arthur K. Cebrowski. NCW means the exploitation of the *information age* technologies to reach an advantageous position in the battle against the enemy. Cgf. Cebrowski, Arthur K. / Garstka, John J.: Network-centric warfare: Its origin and future, in: Proceedings, January 1998.

[10] Cf. Gordon, Michael R. and Trainor, Bernard E.: The General's War: the inside story of the conflict in the Gulf, Boston, 1995.

[11] In the United States Air Force after the Second Gulf War the idea matured that enemy infrastructure or troops could be affected by *„effects"* rather than destruction. The term EBO was coined by Lieutenant General David A. Deptula, who recently was *Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance* of the United States Air Force. Cf. Deptula, David A.: Effects-Based operations: Change in the nature of warfare, Arlington, 2001.

Deptula had been one of the leading planners in the air campaign in 1991 as a member of the *Black Hole* group which led strategic warfare in the Gulf.

Also, in response to the 2001 attacks on the Twin Towers in New York on September 11th (9/11) and the ensuing "War on Terror" in Afghanistan and Iraq came across a phase of *Transformation*.[12] Secretary of Defense Donald Rumsfeld wanted to transform the United States Armed Forces into a learning organization, relying much more on technology. Quicker, smaller networked forces should be able to fight and beat every type of enemy. However, the wars in Afghanistan and Iraq were to be fought against an adaptable enemy who did not want to fight on equal terms against the western forces. In 1992, Andrew Krepinevich had already written about the so-called *streetfighter state* in his assessment about the occurring *Military-technical Revolution*.[13] But *C* (COIN) was far different from what Krepinevich had in mind a decade earlier.[14]

In 2010, as the wars in Afghanistan and Iraq were both winding down, the same Krepinevich propagated, now as the head of a think tank based in Washington, the so-called *AirSea Battle* (ASB), a concept to fight a *near-peer* enemy (an enemy with a *conventional* army who could challenge the United States militarily) such as the *People's Republic of China* (PRC) or Iran mainly in the air and on the surface and sub-surface of the sea. The concept's name would suggest a similar way of *joint* cooperation (e.g. *team warfare*, the application of *combined arms warfare* on a larger, national scale/level) between Air Force and Navy as *AirLand Battle* did for Air Force and Army. The concept focused especially on enemy *Anti-access* and *Area denial* weapons (A2/AD).[15] More or less quickly, as will be described in-depth, the Air Force and Navy jumped on the bandwagon to promote their new brainchild, especially in times of financial austerity. The Budget Control Act from 2011 led to automatic spending cuts throughout the United States government in 2013, including the Armed Forces

[12] While armed forces do transform themselves all the time, owing to different political ideas or in wars, surely, the United States government under President George W. Bush wanted not only to implement reforms in the United States Armed Forces in the early 2000s, *Secretary of Defense*, Donald H. Rumsfeld wanted the Forces to be continuously adapt and transform, cf. Davis, Paul K.: Military Transformation? Which Transformation, and What Lies ahead?, in: Stephen J. Cimbala: The George W. Bush Defense Program: Policy, Strategy, and War, Chapter 2, May 2010.

[13] Krepinevich, Andrew F., The Military-Technical Revolution: A Preliminary Assessment, Washington (1992) 2002, p. 47.

[14] COIN, a type of warfare already present before it was propagated again during the wars in Iraq and Afghanistan, means fighting in an organized fashion against groups or persons who do want to change the present government or institutions in one or more countries, cf. Headquarters, Department of the Army: Field Manual 3-24 (MCWP 3-33.5), Insurgencies and Countering Insurgencies, Washington, DC, May 2014, p. 1-2.

[15] Krepinevich, Andrew F.: Why AirSea Battle, Center for Strategic and Budgetary Assessments (CSBA), 2010.

(sequestration cuts). The United States Army seemed, at the time of writing, still to be in search of how to argue for its own share of *AirSea Battle*.

Having described in short over 30 years of the development of the image of war and therefore, doctrine, in the United States Air Force and Army, the question now seems to be: How did these concepts really differ? Did ideas repeat? Or did the same terms and concepts return again with a different meaning?

Question and limitation

This thesis follows the idea of analyzing military publications (journals, studies, diploma projects) on one hand and military *Manuals*[16] as well as other official and semiofficial means of communication (for example, remarks of general officers) on the other, to show the development and change in the perception of war, the enemy and warfighting in the United States Army and Air Force between 1980 and 2012. These two services are chosen because they *"continue to speak fundamentally different languages when it comes to their respective images of modern war,"* as Lambeth points out.[17] The Air Force (once an offspring of the Army itself) and the Army seem to be locked into a constant struggle for resources and the pole-position as their nation's premier and *decisive* fighting force. Meanwhile, the Navy and Marine Corps (the United States Marine Corps is part of the Department of the Navy) do *"own"* a very different environment; while the Air Force did clash with the United States Navy regarding the employment of nuclear weapons, in the timeframe analyzed, competition about the land war and the air war above did occur mainly between the Air Force and Army.

As shown above, after the Vietnam War, the Army dominated doctrine development as general officers such as DePuy and Starry promoted the ultimate land war in the 1980s. The Air Force did at least officially come along through excellent contact between Starry and *Air Combat Command* (ACC) head General Wilbur Creech regarding *AirLand Battle*, as will be shown below. Thanks to its quite decisive effort in Operation *Desert Storm*, the Air Force seemed to take over the lead in the debate on *"modern warfare"* in the early 1990s.[18] After

[16] For example *„instructions"*, *„guideline"* or even *„guide"* to war or warfighting.

[17] Lambeth, Benjamin S.: The Transformation of American Air Power, Ithaca, N.Y., 2000, p. 286.

[18] Cf. Lewis, Adrian R.: The American Culture of War: The History of U.S. Military Force from World War II to Operation Enduring Freedom, Second Edition, New York, 2012; Linn, Brian M.: Echo of Battle: The Army's Way of War, Cambridge, 2007; and Mahnken, Thomas G.: Technology and the American Way of War since 1945, New York, 2008.

9/11, the ground forces again seemed to regain the upper hand, resulting in the COIN doctrine under General Petraeus.[19] And recently, as operations in Afghanistan and Iraq comes to an end (at least, officially and in scope), the *Pacific Pivot*[20] as well as sequestration cuts let loose new discussions on the roles of the different services in a possible conflict with the *People's Republic of China* (PRC). This proposition will lead through the thesis at hand.

Therefore, doctrine plays an important part in the analysis presented in this thesis. While doctrine is generally defined as a body of teachings or instructions, principles or propositions, it is, in essence, the teachings of a belief system. Doctrine can be political, religious, or as in the present case, military. Norwegian military historian Harald Høiback describes doctrine as a *"recipe […] that tells us how to play in order to win […] it needs some assumptions about what leads to victory."*[21] Doctrine therefore is the institutional idea of war *par excellence*. It is hereby understood to be the institutionalized view on war and warfare:

> *"Army doctrine is a body of thought on how Army forces operate […] doctrine establishes the Army's view of the nature of operations, the fundamentals by which Army forces conduct operations […] Doctrine is also a statement of how the Army intends to fight. In this sense, doctrine often describes an idealized situation and then contrasts the ideal with the reality Army leaders can expect. Doctrine provides a means of conceptualizing campaigns and operations, as well as a detailed understanding of conditions, frictions, and uncertainties that make achieving the ideal difficult. Doctrine […] establishes a common frame of reference and a common cultural perspective to solving military problems, including useful intellectual tools."*[22]

Doctrine thus represents the idealized image of war, which is to say, of *"modern war"*; to show this is the chief aim of this thesis. In the case of the United States and its Armed Forces, the *Manuals* are the main vehicle to promote doctrine, and they are re-edited every few years. While the United States Armed Forces has a *joint* Doctrine (e.g. a doctrine for all services), this thesis does not explicitly want to show how the Air Force and Army did

[19] Headquarters, Department of the Army: Field Manual 3-24 (MCWP 3-33.5), Counterinsurgency, Washington, DC, December 2006.
[20] Clinton, Hillary: America's Pacific Century, in: Foreign Policy, November 2011, p. 56-63, here p. 57.
[21] Høiback, Harald: What is Doctrine?, in: Journal of Strategic Studies, Vol.34:6, 2011, p. 879-900, here p. 883f.
[22] Headquarters, Department of the Army: Army Doctrine Publication 3-0, Unified Land Operations, Washington, DC, 2011, p. 1f.

develop *joint* Doctrine, but rather, how their image of war and corresponding doctrines differed.

The concepts of *AirLand Battle* as well as *Effects-Based Operations* both gained a foothold in official publications, and now the *hybrid* threat and *AirSea Battle* seem to follow suit. In addition to the main questions set out here, it is therefore necessary to analyze how strongly these concepts were institutionalized and to what extent they shaped the language use in general and terminology in particular.

Based on the historical background, shown in the prelude and primary findings, it seems to be appropriate to restrict the evaluation period to the timeframe between 1980 and 2012. All of the concepts mentioned, *AirLand Battle*, *Effects-Based Operations, counterinsurgency* and now *AirSea Battle*, were developed during these years. 1980 is the year after the NATO double-track decision which was prompted by Soviet military build-up; 2012 is the year where the United States Army and Marine Corps together published their own paper[23] to counter the *AirSea Battle* concept and justify their stake in the United States' planning.

Accordingly, the main research question in this thesis has two parts. On one hand, it will be shown how the enemy is conceptualized from which the respective warfighting concept is derived (wherein this can happen also in the reverse direction). For example, *AirLand Battle* was looking on the Warsaw Pact as the enemy in Europe, but the *Effects-Based Operations* had to be adaptable to every type of enemy (and shape of war). On the other hand, the language used in respect to the literal meaning of warfare has to be discerned. While *AirLand Battle* clearly wanted to destroy enemy tanks, infantry and provisions, the target catalogue for the *Effects-Based Operations* seemed to be wider. Herein the population is also part of the *system* which has to be influenced, as is its morale.

State of research

The history of most of the United States *services* is a broadly researched topic. Especially the evolution of the Army is widely examined in many different monographs. The *Companion to American Military History*[24], written by Texas A&M University professor of history and specialist in American maritime, naval, and military history James C. Bradford, for example, is

[23] United States Army, Capabilities Integration Center / United States Marine Corps, Marine Corps Combat Development Command: Gaining and Maintaining Access: An Army-Marine Corps Concept, Ver. 1.0 March 2012.

[24] Bradford, James C. (ed.): A Companion to American Military History, 2 Volumes, Malden, 2010.

an outstanding starting point for every subject linked to the history of the United States Armed Forces. His work contains articles which are useful for the historical background of the analysis at hand, as they tell much about other related literature in the covered field. At this point John R. Ballard[25], Elizabeth Lutes Hillman[26], John W. Huston[27] and Ronald L. Spiller[28] deserve to be mentioned especially.

Apart from Bradford's standard monograph regarding United States military history, a wide range of other authors examine the evolution of warfare in the United States. Benjamin Buley[29] notably shows for the second half of the 20th century, and the first few years of the 21st century, the political and, indeed, cultural backgrounds for the idea of a *New American Way of War*, relying more on technology and, especially, on airpower[30]. From the *Vietnam Syndrome* via the *Powell Doctrine* to *9/11,* Buley shows how politicians and military men laid down rules for United States interventions all over earth and therefore promoted the *New American Way of War*.

The monograph *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare*[31] written by Robert M. Citino, historian at the University of North Texas, examines especially the development of mechanized warfare. Citino also works with the military concepts *Active Defense* and *AirLand Battle,* as well as its application in Operation *Desert Storm*. He identifies the Vietnam War as origin of a spiritual and intellectual rebirth for the United States Army.[32] Citino, too, analyzes *Desert Storm* thoroughly and poses the thesis that more an *Air-land* then *AirLand Battle* was conducted in the Gulf, as the Iraqi Armed Forces were bombarded from the air for weeks before a ground offensive was conducted against them with minimal resistance encountered.

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[25] Ballard, John R.: The Gulf Wars against Iraq, in: Bradford Companion to American Military History, Vol. I, p. 284-297.

[26] Hillman, Elizabeth Lutes: The Cold War, in: Bradford, A Companion to American Military History, Vol. I, p. 272-283.

[27] Huston, John W.: The US Air Force, in: Bradford, A Companion to American Military History, Vol. I, p. 443-453.

[28] Spiller, Ronald L.: The US Army since 1900, in: Bradford, A Companion to American Military History, Vol. I, p. 360-377.

[29] Buley, Benjamin: The New American Way of War. Military culture and the political utility of force, London, 2008.

[30] Airpower includes all types of weapons *„effects"* from the air against targets on the ground or at sea. Different theoreticians already wrote about Airpower like Gulio Douhet, William „Billy" Mitchell und John Boyd. Cf. Jordan, David: Air and Space Warfare, in: Jordan, David et al.: Understanding Modern Warfare, Cambridge, 2008.

[31] Citino, Robert M.: Blitzkrieg to Desert Storm: The Evolution of Operational Warfare, Lawrence, KS: University of Kansas, 2004.

[32] Ibid. p. 266.

Similar to Buley, *University of Kansas* professor Adrian R. Lewis also examines the United States Armed Forces' specific means of handling war.[33] Especially his chapters on the rebuilding and reorientation of the Army under President Ronald Reagan show how a concentration on the threat posed by the Warsaw Pact in Europe, as well as how a specific doctrine and appropriate technological means for victory over this seemingly overwhelming enemy, was constructed. *Lewis* is very critical towards the lessons drawn from the Operation *Desert Storm*; he questions the military's (and especially the Air Force's) belief in the capabilities which the so-called RMA promises. In his view, NCW and EBO are only useful in wars against states but less so against nations of will or *irregular*[34] fighters.

British-American strategic thinker Colin S. Gray's monograph about the future of war[35] shows how war and warfare in fact change very little. Gray, professor of International Relations and Strategic Studies at the University of Reading and director of the Washington-based think tank *Centre for Strategic Studies* gives much insight, especially into the United States' *Way of War(fare)* in relation to the wars in Iraq and Afghanistan.

Texas A&M University professor Brian M. Linn[36] also specifically exposes the United States Armed Forces' concepts and image of war. Linn describes thoroughly how military thinkers shaped the imagination of war much more than did real war experiences. Linn designs a model in which he describes three stereotypes of officers*, managers*, *guardians* and *heroes*, who imagine war in very distinct ways and portray it accordingly. The *guardians* show a very scientific approach and interpret war as sort of an *engineering project* in which the correct usage of principles can result in the desired outcome. In contrast, the *managers* are driven by *"efficiency",* whereas the *heroes* see war as a human enterprise.

Thomas G. Mahnken, Jerome Levy Chair of Economic Geography and National Strategy at the United States Naval War College, also examines the United States Armed Forces' way of dealing with war in his monograph.[37] Mahnken focuses on technology and shows how conceptual ideas drove the development of modern weapons systems especially for the

[33] Lewis, Adrian R.: The American Culture of War: The History of U.S. Military Force from World War II to Operation Enduring Freedom, Second Edition, New York, 2012.

[34] *Irregular* can refer to the type of forces or warfare/tactics conducted by them. The *terminus regular armed forces* comes from the Third Geneva Convention of 1949 and defines *regular* forces as being commanded by a person responsible for his subordinates to a party of conflict, having a fixed distinctive emblem recognizable at distance, carrying arms openly and conducting operations in accordance with the laws and customs of war.

[35] Gray, Colin S. Another bloody century: future warfare, London, 2006.

[36] Linn, Brian M.: Echo of Battle: The Army's Way of War, Cambridge, 2007.

[37] Mahnken, Thomas G.: Technology and the American Way of War since 1945, New York, 2008.

European battlefield in combat against the Warsaw Pact. In a less critical but more technically adept and detailed knowledge, Mahnken advances up to the Balkan interventions. Mahnken has been Deputy Assistant Secretary of Defense for Policy Planning from 2006 to 2009.

Robert R. Tomes, Adjunct Professor of Security Policy Studies at the *George Washington University,* writes about topics like innovation and revolution, as well as transformation.[38] Beginning with the end of the Vietnam War he shows the United States Armed Forces' efforts to enlarge its technological and doctrinal advantage in relation to the Warsaw Pact. Tomes refers to the efforts that intended to network sensors and effectors (e.g. reconnaissance/surveillance systems and weapons systems) as early as in the 1970s. Tomes also states that wrong lessons were learned from Operation *Desert Storm*; in his eyes possible future enemies had acknowledged the impossibility to beat the United States Armed Forces in a *conventional* conflict, acting *unconventionally* e.g. not copying the United States' technological *Way of War*. Tomes looks at the RMA as a construct of the computer evolution during the 1970s and 1980s and determines an according use of language.

As an introduction to the principles and terms regarding land warfare beginning in the 20th century, Christopher Tuck's *Land Warfare*[39] is very well suited. Tuck is a lecturer in the British *Defence Studies Department*. Before he had been a *lecturer* at the *Department of Defence and International Affairs* at the *Royal Military Academy* in *Sandhurst*.

All mentioned authors or monographs work with the so-called *American Way of War* in one way or another; they describe leading thinkers or their concepts and the differing views on war and warfare. But none of them explicitly examines the structures of imagination in the United States Armed Forces and how this is shown in discourses which can be found in *Manuals* or military-related publications. An example of an author who does, in fact, analyze and describe military thought might be Azar Gat's *A history of military thought – from the Enlightenment to the Cold War.* [40] But while Gat describes first and foremost how strategists

[38] Tomes, Robert R.: US Defense Strategy from Vietnam to Operation Iraqi Freedom. Military Innovation and the New American Way of War, 1973-2003, London, 2007. Whereby innovation is understood most often as a *„new idea"* or a *„novelty"*, revolution is tapered to a *„sudden change"* and transformation is *„change"* of form or shape. Regarding the Revolution in Military Affairs it is still not finally decided if there is any *„suddenness"* (cf. Black, Jeremy: The Revolution in Military Affairs: The Historians Perspective, in: Journal of Military and Strategic Studies, Winter 2006/07, Vol. 9, Issue 2.). Transformation is described as an ongoing process in the US armed forces (cf. Rumsfeld, Donald H.: Transforming the military, in: Foreign Affairs, Volume 81 No.3, May/June 2002, P. 20-32).

[39] Tuck, Christopher: Land Warfare, in: Jordan, Understanding Modern Warfare, p. 66-121.

[40] Gat, Azar: A history of military thought – from the Enlightenment to the Cold War, New York, 2001.

such as B.H. Liddell Hart influenced the Western perception of war including operational issues, the thesis at hand will focus on how the United States Air Force and Army themselves built and maintained their respective image of war as whole thinking institutions – a process, which is best described as a discourse, which lays the foundations for the things which could or could not be thought and told during a specific timeframe.

Theoretical approach and method

Different historians in the German-speaking world used different ways and methods to work with military publications and military thinking. Ralf Raths, in his 2009 thesis *Vom Massensturm zur Stosstrupptaktik. Die deutsche Landkriegstaktik im Spiegel von Dienstvorschriften und Publizistik 1906 bis 1918,* similarly investigates a theoretical development, analyzing the discussion on normative tactical doctrine. Thereby he interprets military publications as a *"Forum"* which is used to solve (doctrinal) problems. Raths uses *Manuals* and *guidelines* to analyze the development of tactics in theory, but he intentionally leaves out the implementation of these guidelines. Thus, he writes military history mainly from the perspective of the hierarchical center or from the officer's view, respectively. At the same time, Raths adopts a non-personal approach, intentionally taking a specifically military stance, analyzing the development of thought processes, figures and motives of different authors without highlighting certain stakeholders. Apart from analyzing the guidelines and *Manuals* as a theoretical base, he focuses on the discourse in military publications. Raths sees thoughts, meanings and ideas being presented, exchanged, criticized, further developed, accepted and denied in these publications.[41] However, in his study, Raths neither shows a theoretical base, as such, nor a method. Still, his approach more or less makes sense in working with military concepts. However, the present study shall not work with guidelines on the tactical level beneath scientific military publications, which affected tactics. Rather it shall work with the image or imagination of war especially, which also includes some amount of cultural background. Hence, publications which concern the doctrine of a specific service are better suited to analysis.

At this point, another study has to be referred to as its theoretical-methodical approach was an inspiration for the study at hand. To analyze texts, the historian's discourse analysis seems to fit best. Niklaus Meier analyzes in his dissertation *Warum Krieg? – Die Sinndeutung*

[41] Raths, Ralf: Vom Massensturm zur Stosstrupptaktik. Die deutsche Landkriegstaktik im Spiegel von Dienstvorschriften und Publizistik 1906 bis 1918, Freiburg i. Br., Berlin, Wien, 2009, p. 12-16.

des Krieges in der deutschen Militärelite 1871 – 1945 the interpretation of the sense of war. He argues that through *"producing"* knowledge about war, discourses construct the reality of war: *"Indem ein bestimmtes Wissen über den Krieg bzw. über die Wirklichkeit des Krieges hergestellt wird, entsteht eine (diskursiv) konstruierte Wirklichkeit des Krieges."*[42] Meier uses discourse analysis as an instrument to make out manners of speaking and perceptions of war:

> *Kriegsdiskurse erzeugen und etablieren bestimmte Vorstellungen und ‚Wahrheiten' über Krieg, sie legen gewisse Sichtweisen fest und geben vor, auf welche Art und Weise über Krieg gedacht und geredet wird. Hierbei besitzen Kriegsdiskurse eine sinnstiftende, legitimierende und wirkmächtige Funktion. […] Es soll untersucht und beschrieben werden, welche Themen und Elemente in den Kriegsdiskursen erschienen, welche Kategorien, Klassifikationen und Hierarchien auftraten und welche Rede-, Deutungs-, Legitimations- und Argumentationsformen dominierend waren.*[43]

Meier wants to show how elements of discourse such as categories, classifications or hierarchies brought certain forms of speaking, interpretation, legitimacy or arguments.

According to the French philosopher, historian of ideas, social theorist, philologist and literary critic Michel Foucault, discourses are certain practices that form the things they speak about.[44] Hereto a set of laws has to be found in a text corpus, which discerns *"possible"* statements from others.[45] Yet until now, no consensus has been found, neither in cultural nor in social sciences, as to what exactly discourse is about. There exist several different definitions. The Austrian historian Franz Eder defines discourses as practices which organize and regulate statements for a certain topic and decide what can be said and thought by a social group in a designated timeframe.[46] According to Philipp Sarasin, Swiss historian and Foucault connoisseur, discourse analysis is a conceptual stance with appropriate methodical assumptions. The place of origin of discourse analysis is to be found with Foucault, says Sarasin: he (Foucault) wants to confront an *"old structure"* with a new one, to mark historical transitions or fractures (*"historische Übergänge oder vielmehr*

[42] Meier, Niklaus: Warum Krieg? – Die Sinndeutung des Krieges in der deutschen Militärelite 1871 – 1945, Zürich, 2010, here p. 17.
[43] Ibid. p. 18.
[44] Described in-depth by Eder, Franz X.: Historische Diskurse und ihre Analyse – eine Einleitung, in: Eder, Franz X. (ed.): Historische Diskursanalysen. Genealogie, Theorie, Anwendungen, Wiesbaden, 2006, p. 9-23, here p. 11.
[45] Foucault, Michel: The Archaeology of Knowledge and the Discourse on Language, transl. A. M. Sheridan Smith, New York, 2010, p. 7.
[46] Eder, Historische Diskurse und ihre Analyse, p. 11-13.

Brüche").[47]Discourse analysis thus shows system structures by viewing texts not as sources but rather as "*dead*" material. In an almost anatomical way, system structures, which are contingent and therefore historically and culturally specific, are discerned. As opposed to language analysis, it focuses on a historical question: *"how is that one particular statement appeared rather than another?"*[48] Further, one has to search for patterns of statements and similarities (*"geregelte Formationen von Aussagen"*). Terms, categories, or key arguments serve as elements of the specific structure which allows an author, at a designated point in time, to formulate a certain statement and opened what could be said by him (*"dem Autor zum Zeitpunkt X die Formulierung dieser bestimmten Aussage ermöglicht und ihm dort insgesamt den Raum des Sagbaren eröffnet hat."*) Discourse analysis does not examine single texts written by single authors but rather series of texts from different authors.[49]

Foucault proposes to build-up a coherent corpora of documents, establish a principle of choice, define the level of analysis and of the relevant elements, and, lastly, to specify a method of analysis in order to characterize a discourse.[50] According to the German historian Achim Landwehr, the researcher in a historical discourse analysis can ask for statements as well as their point in time and point of origin. Statements organize themselves according to a topic and repeat consistently (but not necessarily in an identical form!). In Landwehr's eyes, the regularity of statements determine the discourse term, and the discourses produce reality (*"Diskurse bringen Wirklichkeit hervor"*).[51] The historical discourse analysis, according to him, tries to enable access to a history of trueness, of reality, and knowledge (*"einer Geschichte der Wahrheit, der Wirklichkeit und des Wissens"*). The truth which was not formulated – the generally accepted truth (*"die allgemein akzeptierte Wirklichkeit"*) – should be the main focus because it is all about the search for the perception of the reality (*"Wahrnehmungen der Wirklichkeit"*), the change of social perceptions of reality (*"Wandel sozialer Realitätsauffassungen"*) and the research on issues which were acknowledged as given at a certain point in time.[52] To attain this objective, Landwehr suggests a series of investigative steps for a historical discourse analysis. First one must find the subject, wherein the focus lies on sources with motives in recurring images (*"in Bildern, die immer*

[47] Sarasin, Philipp: Diskursanalyse, in: Goertz, Hans-Jürgen (ed.): Geschichte – Ein Grundkurs. Hamburg, 2007, p. 199ff.
[48] Foucault, The Archaeology of Knowledge, p. 27.
[49] Sarasin, Diskursanalyse, p. 208ff.
[50] Foucault, The Archaeology of Knowledge, p. 10f.
[51] Landwehr, Achim: Historische Diskursanalyse. Frankfurt a. M. 2008, p. 92f.
[52] Ibid. p. 96.

wiederkehren").Next, in the formation of a corpus, one must focus on the repetition and equality of things that are said or written always in the same way (*"Wiederholung und Gleichförmigkeit von immer wieder ähnlich Gesagtem oder Geschriebenem"*).Landwehr concedes that constraints should be imposed on the investigation area with respect to labor efficiency. In the end, the target is a corpus consisting of different texts for example. The choice of research material also cannot be made in an objective way; it is liable to background knowledge, hypotheses, and presuppositions which, of course, have to be unveiled. The next in this series of steps is the context analysis. Here Landwehr proposes the investigation for interactions between text and context. Institutions or occasion ought not to be the starting point, but rather one ought to question phenomena in texts and their meanings. The whole context – societal, political and institutional parameters – must not be left out. In a further step, statements have to be analyzed, because these are the constitutive elements of the discourses; however, they are not simply certain sentences or particular words. Their function, rather than their superficial shape, is determining. Several macro analyses need to be conducted to find the decisive statements which characterize the discourse and at the same time determine the macrostructure. Landwehr proposes, as part of the macro analysis, features such as rhetoric, topic, length of sentence, rhetorical figures, word statistics and lexical groups.[53] This way, possible questions to the statements of the discourse are pointed out: Which categorizations, causalities, hierarchies of values are recognizable? In what contexts do the statements appear? Or who tries using what means to place certain statements? With this last step the discourse analysis, as such, has finally arrived. The analysis of the discourse (*"Analyse des Diskurses"*) comes from an array of regularly repeated statements regarding a certain group of themes; one has to ask for demarcations and the establishment of a legitimate worldview in chronologic change (*"nach den Grenzziehungen und nach der Etablierung einer legitimen Weltsicht im zeitlichen Wandel"*). Hereby, features from the single analyses serve as links: How do the features change? How are they put to use? Do new ones appear or do old ones disappear? The aim is to get to the bottom of the categories of perception, meaning constructions, and identity establishments as they change historically, which means one must show the assumed foundations of a certain timeframe and culture and – *last but not least* – to find the exact moment when a discourse reaches such a degree of obviousness that it is no longer

[53] Landwehr, Historische Diskursanalyse, p. 101-123.

fundamentally challenged (*"an dem ein Diskurs einen solchen Grad an Selbstverständlichkeit erreicht, dass er nicht mehr grundsätzlich in Frage gestellt wird"*).[54]

German sociologist Reiner Keller criticizes Landwehr's approach as primarily focused on linguistic features. He proposes a type of discourse analysis derived from sociology of knowledge in order to reconstruct processes of social construction and convey of modes of interpretation and action on the level of institutional arrays, organizations, and social actors (*"Prozesse der sozialen Konstruktion und Vermittlung von Deutungs- und Handlungsweisen auf der Ebene von institutionellen Feldern, Organisationen und sozialen Akteuren"*), in other words, a research program to analyze the discursive deconstruction of reality.[55] This is about an interpretive and deductive reading, an understanding of the text's own understanding(*"Verstehen des Verstehens"*). The historian has to analyze communicative, social, creative processes. Manifestations of social knowledge supply a knowledge-sourced symbolic structure of statements and systems, in other words, the "*typical*" as interpretation pattern. The researcher is looking for plots or *stories,* for the "*golden thread.*" Reiner Keller therefore proposes to proceed as follows: Firstly, he recommends the formation of a data corpus according to a heuristic set of rules. What follows is a data selection for detailed analysis and guided by certain criteria, either a maximum or a minimum contrast or similarity regarding the texts shall be achieved; documents have to be comparable. In this way, a discourse can be worked out through the analysis of the "*coding*" which is achieved through a terminological condensation of certain text passages. Text blocks are then selected for a sequential analysis (whereby sentences, paragraphs, chapters, or whole texts can be looked at) and interpretation hypotheses compiled.[56]

Partially following the theoretical and methodical approaches chosen by Ralf Raths and Niklaus Meier, the thesis at hand shall result in a discourse analysis bound to two different main text corpora. (Accordingly, only texts are worked with.) As described above, the key terms and statements in the discourses on warfighting, or "*modern war*", and the enemy shall be shown and interpreted in their contexts. Discourses focusing on topics such as the role of Airpower versus Landpower; the role of "*firepower*" versus "*maneuver*" in the context of warfare; the role of technology; the type of enemy; and the shape of the

[54] Landwehr, Historische Diskursanalyse, p. 126-129.
[55] Keller, Reiner: Wissen oder Sprache? Für eine wissensanalytische Profilierung der Diskursforschung, in: Eder, Historische Diskursanalysen, p. 54ff.
[56] Keller, Wissen oder Sprache?, p. 61-66.

battlefield serve as a base on which concepts such as *AirLand Battle* or COIN are discussed. Hereby, military technical terms (*termini*), which stand for dominating terms in certain timeframes or in discussions on concepts and are written in *italics*, are searched for and their underlying ideas analyzed. Sometimes acronyms or abbreviations are used to "*label*" a concept (for example COIN or EBO).[57] The United States Armed Forces have an inherent culture of using abbreviations and acronyms in their daily language. While one has to distance him/herself from the labelling, on the other side the *termini* and acronyms are central to the discourse analysis. Often terms and their meaning themselves constitute a discourse. The designation or *terminus* on the other hand, is the technical terminology or characteristic idiom used in the military. Terms dominating a discourse over a period of time or being discussed in different ways are highlighted by "*quotation marks*" and written in *italics*. Apart from terms as well as *termini*, series of statements are the most important feature of discourses, and their regularity has to be derived from the texts. Discourses and their respective terms, as well as statements and *termini* used in their context, are coming and going out again; the differences in meaning of the terms in the discourses are pointed out to show how the discussions evolved over time. At a certain point in time, the Airpower discourse gets front stage when concepts relating to (and based on) it gain support. At another point in time, Airpower gets diminished, when COIN again brings Landpower to get on a roll. Conceptual history would therefore be an alternative theoretical approach to the subject at hand. In general, conceptual history tries to analyze conceptual-historical stages, as Koselleck writes.[58] Despite "our dictionary of fundamental historical concepts" and despite "our continual use of the same words, the political-social language has changed."[59] Terms, therefore, do not change, but their meaning does. However, while conceptual history would help to analyze the changing meanings of terms such as "*firepower*" and the change in the meaning and extent of concepts such as Airpower, conceptual history does not give a method to analyze the discourses through the texts that form the foundation of this thesis.

Therefore, in the context of this thesis, discussions of new concepts throughout the texts and different forms of the latter are especially important. Accordingly, the text corpora are intentionally restricted to the United States Air Force and Army. "*Militarily*", the topic

[57] Abbreviations will in most cases be only once be written-out. Appendix 6.1, *Abbreviations*, contains all abbreviations.

[58] Koselleck, Reinhart: The Practice of Conceptual History -Timing history, spacing concepts, tansl. By Todd Samuel Presner et al, Stanford, CA, 2002, p. 35.

[59] Ibid. p. 5.

analyzed is warfare using means against or in another state or nation. The exclusively nuclear dimension is left out as a separate level, since this would burst the framework of this study. Nuclear weapons show up either as means on the tactical and operational level or as part of the *strategic attack*.

Quality of sources and selection

The similarity of the analyzed sample texts is, regarding the *Manuals*, thanks to their consistent structure and similar intention over the years, namely promoting a *"global"* mindset for the whole institution or general image of war. As such, the *Manuals* promote a special set of speaking rules for one service or the other. Often, *Manuals* contain images or historical inserts and a glossary of definitions and terms. They are written to institutionalize the image of war in the service whose leadership writes and publishes it.

The military publications are confined to a handful of journals which are institutionally bound similarly to the *Manuals*, but are at the same time different types of text, expressing the view of one or more particular authors. In all the publications used for this study, the articles are printed in color and are illustrated with images and/or figures. Regarding the United States Army, the journals *Military Review* and *Parameters* are analyzed, and in the case of the United States Air Force, the *Air Force Magazine* and the *Air&Space Power Journal*. The *Military Review* of the United States Army is published by the *Combined Arms Center* (CAC) which is the largest command subordinated to TRADOC. CAC is the main education facility for officers in the United States Army, and the *Military Review* is its official publication whereas the content of its articles is not the official stance of the United States Army or its *Manuals*. *Military Review* appears bimonthly. *Parameters* is the official publication of the *United States Army War College* (USAWC) which is the higher education facility of the United States Army, training staff officers and civilian cadre beside its research activities. The journal itself is presented as a forum for discussions on war and warfighting to the benefit of the *Department of Defense* (DoD), meaning that the articles published are subjected to certain rules regarding content and scientific standards. *Parameters* is published four times a year. The *Air Force Magazine* is the mouthpiece of the *Air Force Association* (AFA) which is an independent organization promoting the United States Air Force's roles and capabilities to the public. The *Magazine* is published monthly and reports on important aerospace news and developments. The range of authors is somewhat limited;

a handful of editors appear regularly as contributors together alongside active and retired Air Force officers and members of other services. Finally, the *Air&Space Power Journal*[60] is the official publication of the United States Air Force, and it serves as a forum for discussions on the role of Airpower. It is published bimonthly and serves as an open forum for innovative thinking, especially on doctrine. The views and opinions do not carry the official sanction of the Air Force, though its articles are peer-reviewed. The publisher is the *Air University* (AU) which is part of the *United States Air Force Air Education and Training Command*. Finally a set of sources taken from the archives of the *United States Air Force Historical Agency* (AFHRA) as well as the *United States Army Heritage and Education Center* (AHEC) is used. These sources comprise mostly remarks or drafts of remarks for General Officers involved in doctrine development or the Chiefs of Staff, respectively. Studies written by participants at the *United States Army War College* or at the *Strategic Studies Institute* on the one hand and at the *Air Command and Staff College, Air University*, on the other hand top off the selection of sources.

Most of the sources used in this analysis are available to the public. The journals, for example, are digitally available, even partially searchable.[61] A host of *Manuals* from Army and Air Force are digitally available as well. One edition of FM *100-5* had to be requested via *Freedom of Information Act Request* (FOIA). AFHRA kindly sent two older editions of *Air Force Manual* (AFM) *1-1*[62] as print copies. Besides the *Manuals* and journals, a range of diploma theses and other official documents such as, for example, assessments by the CIA's *National Foreign Assessment Center* regarding *Soviet Military Power* are also online available in the *Digital Library* of the *Combined Arms Research Library* (CARL).

The initial selection of sources was easily done regarding the *Manuals*. On the Army's side those comprise the FM *100-5* editions from 1976, 1982, 1986, 1993, 2001 (now dubbed FM 3-0), 2008, 2011 (which is in fact a revision of the 2008 edition) and the ADP/ADRP 3-0 from 2011; the 1976 edition is included because of the covered concept (*Active Defense*) which was an important step to *AirLand Battle*. On the Air Force's side the AFM *1-1* from 1975, 1979, 1984, 1992, 1997 (named AFDD from this edition on, *Air Force Doctrine Document*),

[60] Earlier called *Air University Review* and *Airpower Journal*.

[61] Some editions of the *Manuals* also use different page numerations, having two numbers to show page and chapter, like *2-13* to indicate page 13 of the second chapter. This has to be kept in mind to avoid confusion.

[62] The *Air Force Manual 1-1*, later-on *Air Force Doctrine Document 1* is the basic doctrine document of the US Air Force, being on top of the hierarchy of *Manuals* and regulations.

2003 and 2011 are analyzed. The editions before the analyzed timeframe are included for the same reason as is the case regarding the Army's FM *100-5*.

The examined journal articles were first roughly sorted according to relevancy. Titles and abstracts were searched for terms and *termini*: *Strategy*, *Doctrine*, *AirLand Battle*, *Effects-Based Operations*, *Revolution in Military Affairs*, *Way of War* or *Soviet Threat*, *Operational Maneuver Group*, *Counterinsurgency*, *AirSea Battle,* Operation *Desert Storm,* Operation *Enduring Freedom,* Operation *Iraqi Freedom,* Operation *Odyssey Dawn* and many others. In a second step, a detailed analysis was conducted to determine if each article or author showed or promoted a certain image of war. In this examination, the personal background of each author is as well taken into account as it determines the "*place*" of his "*statement.*"[63] Using this two-phase approach, concepts as well as the discourse on which the discussions of concepts are based, shall be extracted from the texts. The same method was applied to the studies analyzed.

Structure

The discourse analysis would allow presented results to be organized following the different topics which constitute the discourses. However, in this thesis it seems more logical and reader-friendly to describe the discussions in a chronological style and show how the different discourses are determined over time. Therefore, the first part of the study at hand will show the discussions regarding the threat posed by a quick thrust conducted by Warsaw Pact forces into NATO territory, its numerical superiority, the United States' answer in shape of the *AirLand Battle* doctrine, and the following doctrinal evolution until *Operation Desert Storm* (1980-1990). The second part focuses on discussions regarding *lessons learned* after *Desert Storm* and the subsequent concepts RMA, NCW and EBO (1991-2000). The third part tells how the interventions in Afghanistan and Iraq led at least the United States Army to (temporarily) acknowledge forms of war other than the *conventional* one against another state or *near-peer* enemy and how the end of these *stabilization* efforts and the PRC's economic and military rise produced new images of an *AirSea Battle* in the minds of mainly sailors and airmen (2001-2012). Each of the three parts will be followed by a short interim conclusion recounting the development of the terms and *termini* in the different discourses,

[63] Cf. Landwehr, Historische Diskursanalyse, p. 106.

showing how the ideas and, therefore, imaginations based on the discourses, are shaped in order to become more or less important.

I. From Vietnam to the Persian Gulf (1980-1990)[64]

1.1. The end of the Vietnam War and the Arab-Israeli war of 1973

The twenty years in between the Vietnam War and the Second Gulf War in 1991 stand for the greatest period of reform in the history of the United States Army, according to Spiller. Reforms and professionalization of the Army were driven by the end of conscription and the Yom Kippur War in 1973 as well as refocusing on land war in Europe.[65] Therefore, at the beginning of this first part of the thesis, this chapter is going to show how the end of the Vietnam War and the Yom Kippur War influenced military thinking in the United States Army and Air Force in the years before the analysis starts.

After Vietnam

The United States Army's interpretation of the Vietnam War was that it was stabbed in the back,[66] and it saw its troops' tactical abilities negated through political spinelessness and strategic incompetence. This interpretation holds true today as part of the Army's collective identity. It even led the Army as an institution to disregard lessons learned immediately after the war.[67] After Vietnam the traditionally apolitical military elite of the Army was politicized; it arranged with the *Total Force Concept* that the United States Armed Forces would be voluntary in the future and therefore did not have to draw manpower from citizens who might not wish to serve in the Armed Forces.[68] There was an allegation that *Chief of Staff of the Army* (CSA) Creighton W. Abrams connected the force structure of the National Guard and Reserve to the Active Army in such a way that any future conflict would require the mobilization of the Reserve and/or National Guard. At this time politicians and, much more, the military elite formulated a new ideal according to which the United States military was designated only for a specific kind of employment and only minimal own casualties would be tolerated. This employment only "*with restrictions*" was reinforced in the *Weinberger*

[64] The first and second part of this thesis are based on a master thesis presented by the author to the Faculty of Arts and Social Sciences at the University of Zurich in 2012, written in German: Fuhrer, Daniel: Von der AirLand Battle zu den Effects-Based Operations: Die US-Militärdoktrin und das Ende des Kalten Krieges, Zurich, 2012.

[65] Spiller, US Army since 1900, p. 371.

[66] To this two different theses exist: First, the military believed that public support for the Vietnam War diminished only as politics did not want it at all; and second, the officer corps was disappointed because it believed that it was prohibited from being victorious by the politicians. In short, the military believed having lost the Vietnam War because politics did not go the *traditional way of war*. Cf. Buley, The New American Way of War, p. 69.

[67] Linn, Echo of Battle, p. 193-195; cf. also Krepinevich, The Army and Vietnam, p. 262.

[68] Cf. Buley, The New American Way of War, p. 70f.

Doctrine, which would become the *Powell Doctrine* later on.[69] Caspar Weinberger was Ronald Reagan's *Secretary of Defense* from 1981 to 1987. Colin Powell was Weinberger's military consultant temporarily and referred to this doctrine during operations in Panama in 1989 and in the Second Gulf War in 1991 while serving as *Chairman of the Joint Chiefs of Staff* (CJCS). In particular, the doctrine said that military means shall only be employed if absolutely necessary in view of national interests. If troops would be deployed then in earnest, they should be so in a satisfactory number and with full moral support whereas the support by congress and the public had to be ascertained. The deployment of Armed Forces should only be done with clear political ends, and it should be at the same time the last resort.[70] This doctrine can surely be looked at as being the legacy from the *guardians* who have a scientific approach to war as described by Linn. In this kind of scientifically correct and one-sided war the enemy should serve as the receiving end of overwhelming military power that he cannot oppose.[71] Therefore, *"Modern war"* should be short, intensive, and swiftly decided. The American people should not be compromised by it.[72]

With this a period of resurgence of the ideas of Carl von Clausewitz[73] began in the discussions on strategy and doctrine as some officers postulated that the politicians should weigh the risks before the military took over and started the war. In opposition to Clausewitz, war should not be the continuation of politics; it began when politics had failed.[74]

After Vietnam, the Army wanted to revive itself and the trust in itself. Temporarily, there had been rumors that the Army's units in Europe were only there to be evacuated rapidly when war broke out.[75] The military did not want to play *"tripwire"* for the attacking Warsaw Pact forces while politicians debated the employment of nuclear weapons.[76] The Army actually favored a battle against the Warsaw Pact, according to Krepinevich.[77] From the military's point of view, Vietnam was such a dramatic experience that it turned to the Soviet threat in Europe in a therapeutic way. Buley locates this in the circumstance that between

[69] Hereto among others Krepinevich, Andrew F.: The Army and Vietnam, Baltimore/London, 1986, p. 269.
[70] Buley, The New American Way of War, p. 65; cf. also Lewis, The American Culture of War, p. 310 und Linn, Echo of Battle, p. 198.
[71] Linn, Echo of Battle, p. 199.
[72] Lewis, The American Culture of War, p. 309.
[73] Clausewitz, Carl von: Vom Kriege, Berlin, 1832.
[74] Buley, The New American Way of War, p. 66.
[75] Skinner, Airland Battle Doctrine, p. 3.
[76] Tomes, US Defense Strategy, p. 59.
[77] Krepinevich, The Army and Vietnam, here p. 5.

1975 and 1989 only 43 *Military Review* articles were written regarding the so-called *Low-Intensity Conflict* (LIC).[78] He insists that the *lessons* of the Vietnam War were not really pursued.[79] Thereby positive *lessons* would definitely be, as Citino points out, drawn from this war; he argues in his monograph that Army and Marine Corps units fought rather well operatively.[80] And at the same time, the Vietnam War allowed the United States to develop more modern weapons such as *precision bombs* as well as tactics and doctrine (the *Wild Weasel* in the Air Force to overcome enemy air defenses or the *Airmobile* concept[81] in the Army, relying heavily on the helicopter to move troops and support them with gunships). While the Army fought against an enemy, denying it the possibility to put its technological advantages to full use, the Air Force fought, throughout the war, against a frontline Soviet air defense network with limited success. Prepared for nuclear war over Europe, the Air Force thought its units and aircraft would be adequate to fight a *conventional* war. But while some innovative technologies and tactics were developed, air combat showed deficiencies as well. Losses in air-to-air combat for example, were reduced by establishing new training and schools such as *Top Gun*.[82]

Yom Kippur

As mentioned above, the Arab-Israeli war from 1973 is seen as a second defining event in doctrine development at the end of the 1970s. In this war, all warring nations lost about half of their heavy weapons in the first two weeks. The war from 1973 saw the clash of armed forces which were equipped more or less similarly as those in Europe.[83] Especially modern anti-aircraft weapons or *Surface-to-Air Missiles* (SAM), anti-tank weapons (ATGM*, Anti-Tank Guided Missile*) and anti-ship missiles (ASCM*, Anti-Ship Cruise Missile*) proved to be effective.[84] The new Soviet weapons were deemed to be very *effective* (the SAMs actually inflicting heavy losses on United States aircraft attacking North Vietnam), and therefore their very existence theoretically even called into question airstrikes employing tactical nuclear

[78] The *terminus Low-intensity Conflict* was readily used by Army and Air Force doctrine writers to encompass everything that was not part of the *conventional*, *High-Intensity Conflict* imagined as the clash of heavy mechanized units on the ground and Airpower In the aerospace.
[79] Buley, The New American Way of War, p. 74f as well as Krepinevich, The Army and Vietnam.
[80] Citino, Blitzkrieg to Desert Storm, p. 254.
[81] Mahnken, Technology, p. 99-103.
[82] Ibid. p. 90-99.
[83] Whereby one has to relativize that at last the Arab armed forces did not have the level of NATO or Warsaw Pact forces in terms of leadership, training or operational conduct. Cf. hereby Pollack, Kenneth M.: Arabs at War: military effectiveness, 1948-1991, Lincoln, 2002, p. 105-131 (Egypt), 501-513 (Syria) and 574-578.
[84] Mahnken, Technology, p. 127f; cf. also Lewis, The American Culture of War, p. 300.

weapons against the Warsaw Pact's forces.[85] The war from 1973 clearly influenced the contemporary battlefield image in the FM *100-5* from 1976: *"In clashes of massed armor such as the world had not witnessed for 30 years, both sides sustained devastating losses, approaching 50 percent in less than two weeks of combat."*[86] The number of 50 percent losses has to be especially considered as it went in the official documentation. And at the same time, one of the determining terms – "*mass"* – is already connected to the Warsaw Pact's tanks. But nonetheless, Saul Bronfeld argues that *"the encouragement and inspiration derived from the eventual success of the surprised and outnumbered Israelis had an important impact on American planners during the era of the Cold War."*[87] With the ATGM a means came into play which questioned the dominating opinion that only a tank could stop another tank. The opposing parties lost more equipment in a short period of time as the United States Army altogether had in Europe.[88] Tomes describes the conclusions drawn from the Yom Kippur War as following: The battlefield was (again) *"deadlier than ever"*; on the then *"modern"* battlefield, *combined arms warfare* was absolutely necessary to be successful, and training on the tactical level made all the difference.[89]

1.2. The perception of the Soviet threat at the beginning of the 1980s

The war in 1973 was therefore in the late 1970s and early 1980s, respectively, translated by United States planners into a scenario differing strongly from the war reality encountered in Vietnam. That contemporary scenario saw Soviet tanks and armored vehicles beaded for kilometers into East Germany and Czechoslovakia. Those vehicles would then break through the weak NATO defenses, as the FM *100-5*, 1976 edition would describe at that time:

> *"The Soviet Army […] attacks on very narrow fronts in great depth, with artillery massed at 70 to 100 tubes per kilometer in the breakthrough sector. […] It is deeply ingrained in*

[85] Tomes, US Defense Strategy, p. 62.
[86] Headquarters, Department of the Army: Field Manual 100-5, Operations, Washington, DC, Department of the Army, 1976, here 1976, p. 2-2.
[87] Bronfeld, Saul: Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army, in: The Journal of Military History, Volume 71 No.2, April 2007, p. 465-498, here p. 474.
[88] Tomes, US Defense Strategy, p. 62; cf. also Citino, Blitzkrieg to Desert Storm, p. 255f.
[89] Tomes, US Defense Strategy, p. 73; cf. also: Lewis, The American Culture of War, p. 300. Whereas the last two things had applied to the Second World War, cf. Mansoor, Peter R.: The GI Offensive in Europe: The Triumph of American Infantry Divisions, 1941-1945, Lawrence, 1999. Cf. as well Bronfeld, Saul: Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army, in: The Journal of Military History, Volume 71 No.2, April 2007, p. 465-498, here p. 470.

the Soviet Army and if we should go to war in Europe, those are exactly the tactics we would face."[90]

FM *100-5*, 1976 was designed to promote the basic concepts which formed the foundation of what the Army had to be prepared for: *"masses"* of tanks, or in this statement, artillery. While the FM's authors did include other types of war, they foremost saw the battle against forces of the Warsaw pact in Europe as the *"most demanding mission"*[91] the United States Army could be assigned. In that way, the authors especially coined the discourse, blocking out other scenarios on fact. The consequences which the United States Army had drawn from the 1973 Arab-Israeli war certainly had their impact on the perception of war, as can be seen in the FM *100-5* from 1976. And the doctrine writers would even exaggerate and speak of *"challenges beyond any the US Army has ever faced."*[92] However, this was certainly not the first occasion on which a military entity claimed to stand in front of the greatest challenge ever encountered.

Fulda Gap

If one followed the image of war promoted, then one saw in the shortest period of time the Warsaw Pact's formations standing in Frankfurt, at the Rhine, or even farther westwards after having crossed the *Fulda Gap*. In Western perception, the Warsaw Pact would not give NATO any time to mobilize, as Soviet operational thinking favored fast, *Deep Operations* into enemy territory. The *Fulda Gap*, an area between the Hesse-Thuringian border and Frankfurt am Main, contained at that time corridors of lowlands through which tanks might have driven easily in a surprise attack to gain footholds across the Rhine. So the *Fulda Gap* was an obvious route for a hypothetical Warsaw Pact attack towards West Germany from Eastern Europe. Therefore, the concept of a major battle in or along the *Fulda Gap* was a predominant element of United States and NATO war planning during the Cold War. The *Fulda Gap* got a symbol for the battle imagined in central Europe; even a board game was derived from the scenario linked to the *Fulda Gap*.[93]

[90] FM 100-5, Operations, 1976, p. 5-2.
[91] Ibid. p. 1-2.
[92] Ibid. p. 2-1.
[93] *Fulda Gap: The First Battle of the Next War*. Designed by James F. Dunnigan, Simulations Publications, Inc., 1977.

Indeed, already in the late 1920s soviet officers such as Mikhail Nikolayevich Tukhachevsky[94] and Vladimir Kiriakovitch Triandafillov[95] had introduced the concept of *Deep Battle* or *Deep Operations* into the *Red Army*, part of *Operational Maneuver*[96] in English. Triandafillov in his 1929 writing *The Character of Operations of Modern Armies* named tanks as mobile element in offensive operations, as did G.S. Isserson writing *The Evolution of Operational Art* (1932/37) and *Fundamentals of the Deep Operation* (1933), which was not the case in every nation in the interwar period. In the United States, for example, the tank was not seen as a *decisive* weapon at that time.[97] The regulations *Ustav* from 1936[98] conceptualized under the guidance of Tukhachevsky, declared *simultaneous* attacks by aircraft and artillery on enemy positions in the *"depth"* (another term that would dominate the discussions) of the area and breakthroughs by mechanized forces as Soviet doctrine.[99] The *"operational level"*[100] included the *Deep Battle* or *Deep Operation*, the advancing in the enemy's rear area unto the rear artillery line with *simultaneous* actions by artillery, mechanized infantry units, tanks, cavalry and air support.[101] The *echelonment* facilitated to hold back reserves for offensive operations, on one side, as well as readying the necessary mass for breakthroughs and exploitation on the other side. This enabled, moreover, more elasticity in the defense,

[94] *Михаи́л Никола́евич Тухаче́вский*, one of the first five Marshalls of the Soviet Union, author of *National and Class Strategy* (1920), *The Battle of the Bugs* (1924), *Questions of Higher Command* (1924), *Problems in Contemporary Strategy* (1925), *Tactics and Strategy* (1926), *War as a Problem of Armed Struggle* (1928), *Battle and the Operation* (1929), *Preface to J. F. C. Fuller's Reformation of War* (1931), *Development of Weapons and Forms of Battle* (1931), *New Questions of War* (1931–32), *The Development of Forms of Command and Control* (1934) and *The Red Army's New Field Service Regulations* (1936) among other works. Cf. to *Tukhachevsky* also Orenstein, Harold S. (trad.) / Glantz, David M. (forew.): The evolution of Soviet operational art, 1927-1991: the documentary basis, Volume I, 1927-1964, London, 1995, p. 39.

[95] *Влади́мир Кириа́кович Триандафи́ллов*, russian military theoretician and temporarily deputy Chief of the General's Staff. About *Triandafillov* cf. also Glantz, The evolution of Soviet operational art, Volume I, p. 51.

[96] *Tuck* defines *Maneuver* as the movement of forces to reach advantageous positions or an advantageous constellation on the battlefield, respectively. *Maneuver* was put forward by inventions at the beginning of the 20th century like the internal-combustion engine, air mobility as well as the radio; moreover, greater range and firepower of modern guns contributed to these tendencies. Cf. Tuck, Land Warfare, p. 76ff. The development on to firepower and *Maneuver* is also being looked as a *Military Revolution*. Those consist most often of technological, systemically, operational and organizational changes. Cf. hereby Krepinevich, Andrew F.: Cavalry to computer; the pattern of military revolutions, in: The National Interest No 37 (Fall 1994): 30(13).

[97] For the example of the United States Army, cf. Odom, William O.: After the Trenches: The Transformation of U.S. Army Doctrine, 1918 – 1939, Texas, 1999.

[98] *Field Service Regulations (1936)*, translated by SSG Charles Borman, U.S. Army Military History Institute, Carlisle, 1937.

[99] Glantz, Soviet military operational art: in pursuit of deep battle, p. 25.

[100] Hereto has to be annotated that the operational level was a Soviet invention. *Operational Art* or the operational level is the one which tries to facilitate events on the tactical level on the battlefield into success on the strategic level, cf. the definition in the FM 100-5, Operations, 1993, p. 6-2.

[101] Tuck, Land Warfare, p. 90.

including rear-oriented movements.[102] Tactical breakthrough should facilitate the creation of an operational breakout which could then in a third phase be exploited. In exercises in 1935/36 coordination, leadership and logistics of large units proved to be the weak points of the concept.[103]

Fast forward to the late 1970s: the United States, because of this Soviet thinking, would not be able to intervene with nuclear weapons due to political deliberations. The retreat to better defensive grounds and the channeling of enemy forces to destroy them afterwards would mean the concession of terrain. This way a nuclear attack could only be made on NATO territory, and that was not politically feasible. The *Air-Land Forces Application Directorate's* (ALFA) *Air-Land Battle Primer* stated in 1978:

> *"Increasingly, Soviet offensive doctrine has been tending to favor the unreinforced attack – a blitzkrieg-like penetration of many units to overwhelm the NATO defense. Such penetrations are possible if gaps or open flanks in the defenses can be found."*[104]

This frustrating scenario was soon known as *The Battle of the Fulda Gap*.[105] A 1981 report by the *Central Intelligence Agency* (CIA) assessed the Soviet forces similarly: *"The [Soviet] ground forces would carry out a massive and rapid ground offensive into NATO territory to defeat NATO forces, disrupt mobilization, and seize or destroy ports and airfields to prevent reinforcement."*[106] Adjectives like massive, fast, and then later deep as well will be further encountered describing the attack by the Warsaw Pact, signaling the terms important to be able, at that time, to speak about the Soviet thrust: *"depth"*, *"mass"*, and *"speed"*.

Conventional Forces

In the 1960s and 1970s the Union of Soviet Socialist Republics (USSR) as driving force of the Warsaw Pact had as well countered every new technological development of the United States: the atomic bomb, the intercontinental bombing aircraft, the fusion bomb, the *Ship-launched Ballistic Missile* (SLBM) and *Multiple independently-targeted re-entry Vehicle* (MIRV).[107] Analysts agree that especially in the area of nuclear weapons the erstwhile

[102] Tuck, Land Warfare, p. 79.
[103] Mahnken, Beyond Blitzkrieg, p. 248.
[104] Air Land Forces Application Agency: Air-Land Battle Primer, Air Land Forces Application Agency, Langley AFB - Fort Monroe, Virginia, HQs USAFTAC/USATRADOC, June 1978, p. 3-2.
[105] Linn, Echo of Battle, p. 202f. Cf. also p. 196 as well as Tomes, US Defense Strategy, p. 58. Fulda was even one of the examples used in FM *100-5*, 1976.
[106] The Development of Soviet Military Power, 1981, p. 51.
[107] Hillman, The Cold War, p. 275.

supremacy of the United States was gone, and western *conventional* weapons systems had become more and more expensive and complex, making acquisition *en masse* more difficult.[108] The United States Armed Forces in the 1970s had lower budgets available as well, whereby the Army was more affected than the Air Force, which had a quasi-monopoly on the strategic level. Under President Nixon, the administration tried to mollify Congress and to foment as few anti-military sentiments as possible. Therefore, less money was invested in weapons procurement, but disarmament was discussed with the USSR. Meantime, the USSR induced *SS-20 Intermediate-range Ballistic Missile* (IRBMs) in Europe; this the United States and NATO countered with the *Pershing II* and *Tomahawk* as well as the aforementioned disarmament talks.[109] The CIA saw a renewed significance of *conventional* forces because of a "*parity"* in nuclear weapons systems in its 1981 study:

> *"To the extent that Soviet intercontinental nuclear forces now check those of the United States and Soviet gains in theater nuclear forces have offset those of NATO, the balance of conventional forces in Europe has become increasingly significant."*[110]

Soviet *theater nuclear forces* were best symbolized by the *SS-20* induction. Tommy L. Whitton, *Senior research specialist* at the *Directorate of Estimates*, *Strategic Studies Division*, *United States Air Force Headquarters* used the term "*parity*" in his article in the *Air University Review*, March/April edition 1983 in a similar fashion:

> *"Another important factor affecting the employment of air power in a theater role has been the attainment by the Soviets of at least 'essential parity' in strategic nuclear forces."*[111]

These developments resulted in United States analysts and therefore authors of military-related pieces having the perception that a *conventional* conflict was more likely as the Warsaw Pact now could escalate in a controlled fashion. In comparing the numbers of *conventional* weapons systems in Europe, a striking quantitative Soviet superiority was evident as well. According to Citino, the Warsaw Pact in the mid-1980s had estimated 42,500 *Main Battle Tanks* (MBT), NATO about 13,000; regarding artillery pieces and mortars the numbers stood at 31,500 versus 10,750; regarding *Armored Personnel Carriers* (APC) at

[108] Tomes, US Defense Strategy, p. 60.
[109] Ibid. p. 60f.
[110] The Development of Soviet Military Power, 1981, p. xiv-xv and xiii-xiv.
[111] Whitton, Tommy L.: The Changing Role of Air Power in Soviet Combined-Arms Doctrine, in: Air University Review, March-April 1983.

78,800 versus 30,000; regarding anti-tank missiles at 24,300 versus 8,100; and regarding tactical fighter aircraft at 7,240 versus 2,975.[112]

Numbers

These numbers and the resulting numerical inferiority, respectively, of the United States and its allies were then downright celebrated in the *Manuals* without questioning either the quality or readiness of this equipment. Altogether NATO faced nine armored and ten mechanized divisions in the *Deutsche Demokratische Republik* (DDR), as well as 16 armored and 14 mechanized divisions in the whole of Eastern Europe, and another 45 Warsaw Pact divisions together with 65 divisions[113] in the European part of the USSR. In essence, NATO had to go against about 140 divisions. To cope with these forces, NATO had 16 United States Army Europe (USAREUR) divisions[114], each with double the size of its Soviet counterpart as well as the units of the European allies – 93 divisions overall.[115] Moreover, the USSR would have had the possibility to easily reinforce thanks to its railway and road network; that is what contemporary analysts thought at least. United States reinforcements, on the other side, would have had to take the longer way across the Atlantic (*REFORGER, Return of Forces to Germany*).[116] But the quality of Soviet personnel and equipment in the second and third *echelon* units possibly would not have been that high on the other side. Nonetheless, CIA analysts wrote in a 1984 report about the Soviet threat again similarly:

> *"Soviet war aims would be to defeat NATO and occupy Western Europe before it could be reinforced. The Soviets plan for a rapid, combined arms operation to reach the Atlantic in the shortest time possible. Soviet ground formations hope to achieve a rate of advance of up to 100 kilometers per day."*[117]

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[112] Citino, Blitzkrieg to Desert Storm, p. 230. In 1984 CIA published these numbers: divisions: NATO 93, Warsaw Pact (WP) 176; MBT: NATO 14'400, WP 42'600; artillery pieces/mortars: NATO 11'500, WP 35'000; APC: NATO 35'700, WP 75'000; ATGM: NATO 15'300, WP 32'200; attack helicopters: NATO 775, WP 960; fighter aircraft/interceptors/recce/bomber: NATO 1'975/780/235/- (without US reinforcements of about 1'300/225/173/62), WP 2'250/4'195/585/400. Cf. CIA National Foreign Assessment Center: Soviet Military Power, April 1984, p.74.

[113] 23 armored divisions, 37 mechanized and five airmobile divisions. Cf. Citino, Blitzkrieg to Desert Storm, p. 230.

[114] Four armored divisions, six mechanized divisions, one light infantry, one air assault and one airmobile division. Cf. Citino, Blitzkrieg to Desert Storm, p. 230.

[115] If one counts NATO divisions including United States Army divisions double, then the equation would not look that bad at all, if one considers the attacker to have traditionally a 3:1 ratio superiority in materiel and personnel.

[116] Citino, Blitzkrieg to Desert Storm, p. 230.

[117] Soviet Military Power 1984, p. 49f.

Of course the CIA has to be considered as a significant *place of statement*. Whereas the number of 100 kilometers has to be questioned from a military perspective, at the same time, it shows the image of the quick and complication-free attack of the Warsaw Pact (*"speed"*). Indeed, analyses regarding the war aims of the Warsaw Pact show that as far as into the 1980s it preferred offensive action and extinction of NATO forces on their territory before they could be reinforced from the continental United States.[118] But there were other opinions as well. General Frederick J. Kroesen, *Commander in Chief United States Army, Europe*, wrote to retired Colonel Daniel Gans in a private letter in 1980:

> *"To win, the Soviets must move quickly to prevent reinforcement of Europe, to choke off the sustaining petroleum supplies, and to cause us to divert scarce military resources to other vital areas. They would hope to accomplish that while waging a preemptive psychological warfare campaign aimed at inhibiting our use of nuclear weapons and attempting to separate us from our allies […] I do not view our prospects as hopeless, and I'm not in agreement with those who believe there will be Russians on the Rhine in 72 hours, but I also feel that we have to look realistically at strategic probabilities in a general war."*[119]

Similarly to Kroesen, who did not view the United States' prospects as *"hopeless"*, Major General Alexander M. Weyand, *Commanding General, 25th Infantry Division*, equally criticized the negative perceptions: "*Some parts of the draft manual [FM 100-5, 1982] sound as if we view ourselves as a militarily inferior nation."*[120] And General DePuy himself wrote in 1980:

> *"Soviet armies do not move forward on some magic cruise-control set at 15 km per hour or some other rate derived by averaging movement over periods of days and weeks. Instead, battles are episodic – advances sporadic – and subject as much to the terrain and the quality of the defense as to the doctrine of the attacker. Just because we have studied Soviet doctrine exhaustively, we must not sanctify his intentions nor assign his tactics an aura of inevitable success. A well-situated U. S. tank or Mech company team*

[118] Cf. Heuser, Beatrice: Victory in a Nuclear War? A Comparison of NATO and WTO War Aims and Strategies, in: Contemporary European History, Vol. 7, No. 3, Theme Issue: Changing Perspectives on European Security and NATO's Search for a New Role. From the 1960s to the Present (Nov., 1998), p. 311-327, here p. 321ff; as well as Lautsch, Siegfried: Kriegsschauplatz Deutschland – Erfahrungen und Erkenntnisse eines NVA-Offiziers, Potsdam, 2013, p. 1.

[119] Kroesen, Frederick J.: Fight Outnumbered and Win, 28 March 1980, AHEC, Donn A. Starry Collection, Correspondence Files, April 1980, to July 1980, Box 21, Folder 3.

[120] Weyand, Alexander M.: FM 100-5 Review, April 29, 1981, AHEC, Donn A. Starry Collection, Correspondence Files, April 1981, to June 1981, Box 25, Folder 2, p. 1.

with 10 to 15 high performance tank and anti-tank weapons should be able to destroy a Soviet tank battalion coming straight at it 9 times out of 10 with moderate losses."[121]

The distinctive *managerial* style purported by DePuy, stressing numbers and probabilities, will be found again below in the discussion of FM *100-5* 1976 and the *Active Defense*. Numbers and probabilities will get again take center stage as part of the Airpower discourse where *"efficiency"* will be claimed to be the main advantage of aerial attacks. In the meantime, General Glenn K. Otis wrote similarly when he was in command of TRADOC in 1981: *"A ground attack against NATO forces in Europe will be spearheaded by masses of armored vehicles. Frontages in Europe will demand that we concentrate on main avenues of approach and counter quickly."*[122] Resorting partially to *Active Defense* language (see below), Otis hereby described the *"mass"* coming at the defending NATO forces. But General Donn A. Starry as well had to concede in a letter to Brigadier General Donald Morelli, *United States Army Readiness Command*, on the concept paper for *Joint Attack of the Second Echelon*: *"The general thrust of the paper shows NATO defending and WP [Warsaw Pact] attacking. We've tried to get that bias out of most what we write, but it shows through too grossly here again."*[123] Both General officers promoted their own distinctive image of United States Army warfare style and doctrine in order to counter the Soviet threat envisioned in the late 1970s and early 1980s. But first, the next chapter will outline how the Warsaw Pact's forces were thought to move forward on the ground.

1.3. The emergence of the *Operational Maneuver Group*

After the Second World War and in the 1950s the dominant opinion in the United States was that in *"modern warfare"* the focus lay on "*firepower*" and therefore especially on nuclear weapons. In the 1960s Soviet military intellectuals as well saw a *Revolution in Military Affairs* on the battlefield resulting from these nuclear weapons (which should not to be confused with the United States' RMA). Theoreticians like Wassili Danilowitsch Sokolovski even postulated that *conventional* ground war had become unnecessary or at least secondary

[121] DePuy, William E.: FM 100-5 Revised Comments, August 15, 1980, AHEC, Donn A. Starry Collection, Correspondence Files, July 1980, to October 1980, Box 22, Folder 9, p. 9.
[122] Otis, Glenn K.: Force for the Nineties, Remarks by General Glenn K. Otis, Mark Clark / Mascarenhas De Morales Guest Speaker Program, Brazil, 14-18 September 1981, AHEC, Glenn K. Otis Speeches, 1981-1984, Box 1, p. 47.
[123] Starry, Donn A: Comments on the Operational Concept Paper for Joint Attack of the Second Echelon, 7 December 1981, AHEC, Donn A. Starry Collection, Correspondence Files, October 1981, to February 1982, Box 27, Folder 4, p. 1.

because of the deployment of nuclear weapons on the strategic level.[124] Only over the course of the 1960s did it become obvious that *conventional* ground war could absolutely play a role. This opinion was reinforced by the nuclear "*parity*" resulting from the circumstance that the Warsaw Pact was able to field the same nuclear *triad* as the United States (ICBMs, SLBMs, bombers). In the late 1970s and 1980s, nuclear strikes were seen as means on the operational level in a *conventional* war. The deployment of tactical nuclear weapons, as temporarily believed by NATO as well as the Warsaw Pact's forces, could take place despite of the huge arsenal of strategic weapons without triggering an all-out nuclear exchange of *"blows"*.[125] Moreover, with the advent of *Precision Guided Munitions* (PGM)[126] *conventional* weapons could have wide-ranging *"effects"* (a term which would be more prominent in the 1990s) on the battlefield as well, serving as a substitute for tactical nuclear weapons and therefore diminishing the likelihood of nuclear escalation by empowering *conventional* forces.[127]

Deep Operation

Therefore, as was the opinion in the United States in the late 1970s and early 1980s, contemporary Soviet doctrine, the *Deep Operation*, rested upon surprise. Thus the attack on the enemy throughout the whole *"depth"* of the area consisted of numerical superiority in means and *"firepower"* at *decisive* points, mobility as well as continuous operations and advancing through a distance of between 50 and 70 kilometers on each battle day. Quoting General Starry in 1978, *"Key soviet concepts are mass, momentum, and continuous land combat"*[128], one can see the terms *"mass"* and *"speed"* associated again to the Soviet assault. Erroneously analysts in the United States until the end of the 1970s saw Warsaw Pact forces only attacking along one (or few) axis. Not until the exercise *Zapad-81*[129] in which the *Operational Maneuver Groups* (OMG) was deployed for the first time in earnest showed

[124] *Василий Данилович Соколовский*, Marshal of the Soviet Union from 1946, Chief of the General's Staff from 1952 until 1960. Cf. Glantz, Soviet military operational art: in pursuit of deep battle, p. 34.
[125] Cf. hereto Heuser, Victory in a Nuclear War, p. 318 among others.
[126] Contrary to un-guided *dumb* or gravity bomb equipped with a target-acquiring system (electro-optical, infra-red, radar, GPS) and a guiding kit.
[127] Glantz, Soviet military operational art: in pursuit of deep battle, p. 37.
[128] Starry, Donn A.: Remarks to the AUSA Symposium, Fort Benning, Georgia, April 24, 1978, AHEC, Donn A. Starry Collection, Speeches, Books I to V, 1959 to 1980, Box 36, Folder 3. Starry was quoted similarly again in 1981 at an *Army Physical Disability Agency* (APDA) meeting, cf. Starry, Donn A.: Remarks by General Donn A. Starry, APDA Meeting, Ft Knox, Kentucky, 23 September 1981, AHEC, Donn A. Starry Collection, Speeches, Books VI to X, 1981 to 1983, Box 36, Folder 2, p. 5f.
[129] *Запад-81,* russ. for *West-81* cf. hereby H.J.G.: Manöver in Ost und West, in: DIE ZEIT Nr. 38, 11. September 1981, p. 8.

western planners how Soviet forces systematically tried for gaps and weaknesses in the defense perimeters.[130] Using airmobile troops even made vertical *echelons* possible apart from those into the *"depth"*. The goal of these actions had to be multiple breakthroughs along different movement axis's including parallel action against targets in the *Hinterland*.
At the same time the weaknesses of Soviet doctrine, propagated by United States analysts, had to be exploited: the rigid leadership system, which apparently tolerated little initiative on lower levels; the general tendency to hold precisely onto battle plans at higher command; and the education system, which let only few creativity take place and the more scientific approach to the battle.[131] Furthermore, there had to be predictable *echelons* whose elements had clear missions from the beginning. In the end, western analysts attested the Warsaw Pact's forces also a technological inferiority, as Skinner described.[132] Therefore they would mainly rely on their numerical superiority as well as surprise:

> *"[…] mass, momentum, and continuous combat are the operative tactics. Breakthrough (somewhere) is sought as the initiator of collapse in the defender's system of defense. […] In the alternative, surprise is substituted for mass in the daring thrust tactic. […] What is important is that superiority in numbers permits him to keep a significant portion of his force out of the fight […] follow-on echelons gives the enemy a strong grip on the initiative which we must wrest from him, then retain in order to win."*[133]

"Mass" and the accompanying *"momentum"* (*"speed"*) would pose exorbitant problems to defend against. The executing element for this *Deep Battle* would be the OMG having different armored and mechanized units in multiple in-depth echeloned formations.[134] The OMG as a new form of a *conventional* threat should consist of multiple mixed formations[135] (*combined arms*) and itself be part of multiple *echelons*, as well as be *echeloned* itself. Sacrificing distribution on a broad front for a marching formation echeloned in the *"depth"* of the area should facilitate fast advances and forestall any tactical nuclear strikes by NATO forces.[136] The OMG should comprise one or multiple *Independent Maneuver Element(s)* to

[130] Lewis, The American Culture of War, p. 301.
[131] Tomes, US Defense Strategy, p. 112.
[132] More in Skinner, Airland Battle Doctrine, p. 6ff.
[133] The AirLand Battle and Corps 86, p. 5.
[134] Ibid. The OMG consisted of, according to the magnitude of the attacking force, an *Armored Division* or even a *Corps*, cf. Lautsch, Kriegsschauplatz Deutschland, p. 75 or Glantz, Soviet military operational art: in pursuit of deep battle, p. 228-234.
[135] Motorized or tank regiments or brigades, cf. Glantz, Soviet military operational art: in pursuit of deep battle, p. p. 228-234.
[136] Cf. House, Jonathan M.: Combined Arms Warfare in the Twentieth Century, Lawrence, KA, 2001, p. 242.

probe for gaps or weaknesses in the enemy's lines and open breaches, into which up-moving forces could advance at once. Starry described the phenomenon in 1981: *"They [the Soviets] plan a regimental level attack on multiple axes, against defenses which are not set. Every one of those is a meeting engagement, which they then try to exploit by pouring on second echelons."*[137] Therefore, according to critics of the concept *Active Defense* (which was conceived as an answer to Soviet doctrine and will be discussed further in the next chapter) and advocates of *AirLand Battle Doctrine* later on, it was indispensable that the enemy was fought against throughout the whole *"depth"* of the area *simultaneously*.[138] The OMGs would advance on multiple axes. Most of the force would be concentrated at the front and well secured from enemy nuclear strikes. *Simultaneously*, the USSR deemphasized the importance of the second echelon units, as they were indeed potentially increasingly vulnerable to nuclear strikes.[139] Pre-planned and possibly being composed of parts of the first *echelon*, the OMG could rapidly exploit breaches.[140] As part of a *Front*[141] the OMG should quickly advance behind the first *echelon* to exploit breaches in a fast fashion.[142] Army Major Stephen T. Rippe, an airborne ranger infantry officer and Army aviator, accordingly wrote in a CGSC thesis in 1985 to gain the title of *Master of Military Art and Science*:

> *"In order to breach defenses rapidly and maintain offensive momentum, Warsaw Pact doctrine advocates the use of massed, high speed, heavily armored forces at a time and place of their choosing. During offensive operations, the advanced penetration element and the first echelon maintain pressure on the defense in an attempt to find its weakness. Then second echelon forces and Operational Maneuver Groups (OMGs) are used for exploitation."*[143]

"Mass" and *"speed"* dominated the discourse on the enemy's warfare in the United States Army during these years and were mostly connoted to the image of the Soviet thrust in Central Europe. In the 1970s and 1980s, the United States Army even had a *Soviet Studies*

[137] Starry, Donn A.: Remarks by General Donn A. Starry, APDA Meeting, Ft Knox, Kentucky, 23 September 1981, AHEC, Donn A. Starry Collection, Speeches, Books VI to X, 1981 to 1983, Box 36, Folder 2, p. 7.
[138] Tomes, US Defense Strategy, p. 107f.
[139] Glantz, Soviet military operational art: in pursuit of deep battle, p. 208.
[140] Lautsch, Kriegsschauplatz Deutschland, p. 75-85.
[141] The Russian term *Front* means the highest operational association of multiple large units from different branches in Soviet military science as well as the highest unit breakdown in peace time. Cf. Glantz, Soviet military operational art: in pursuit of deep battle, p. 227.
[142] Ibid. p. 227.
[143] Rippe, Stephen T.: An Army and Air Force Issue: Principles and Procedures for Airland Warfare – A perspective of operational effectiveness on the modern battlefield, U. S. Army Command and General Staff College, Fort Leavenworth, KS, 1985, p. 68.

Group which, among others, concentrated on *conventional* ground war or a conflict confined to the *European Theater* respectively. The group concluded that the Soviet OMGs could, thanks to their *"mass"*, easily turn tactical breaches into operational success. Soviet defectors further described the execution of five phases: firstly, one or multiple nuclear strikes against defending Western troops and/or the nuclear means of NATO would have been conducted; second, aerial attacks and third, *conventional* rocket attacks would have followed; fourth the ground offensive, in which a tank army would appear as the *decisive* element for a breakthrough; and finally the breakthrough would be exploited by the second *echelon*. Every advance would possibly be foregone by a nuclear *carpet*. Overall, one Soviet defector calculated five to six armies with about 10'000 tanks, acknowledging the perceived *"mass"*, without anyone seemingly really questioning the calculus.[144]

Preventing the deployment of nuclear weapons

The Soviets themselves saw NATO's forces to be, arguably, mobile, but having few operational *"depth"* and reserves. Because of that, also, NATO could feel pushed to use nuclear strikes. Quick advances by the Warsaw Pact's forces should prevent the deployment of PGMs or nuclear weapons by undermining NATO's communications and leadership ability.[145] Those responsible in the USSR took the view that, owing to the nuclear deterrent on both sides, a *conventional* war was more realistic, as Glantz argues. In the context of this scenario, the early destruction of enemy tactical/operational nuclear means with an immediately following advance on the ground would be ideal to forestall nuclear escalation.[146] A more flexible *echelon* instead of the concentration of forces owing to the principle of *"mass"* should prevent enemy nuclear strikes and facilitate concentration through movement on the battlefield.[147] The OMG was high-placed in the discussion regarding the threat by the Warsaw pact and therefore an important concept in the discourse on the enemy. In June 1983, Colonel William G. Hanne at the *Strategic Studies Institute* of the United States Army described the OMG as following:

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[144] Suvorov, Victor: Inside the Soviet Army, New York, 1982, p. 167, as quoted in Citino, Blitzkrieg to Desert Storm, p. 270f.
[145] Ibid. p. 221.
[146] Glantz, David M.: Soviet military operational art: in pursuit of deep battle, London, 1991, p. 215. Hereto one has to note that especially the United States as leading nation in NATO saw, beginning in the 1960s, the tactical nuclear weapon as means in a *conventional*, confined ground war, which should prevent escalation on to the level of an all-out nuclear war. Cf. also the analysis by Heuser, Victory in a Nuclear War, p. 318 among others.
[147] Ibid. p. 220.

> *"The OMG has evolved into an organization that is designed to strike rapidly and deep into NATO's rear, thereby capitalizing on predicted difficulties within NATO to obtain tactical nuclear weapons release."*[148]

Hanne here describes the term OMG as a problem for NATO relating to the reserves as well. The OMG concept as manifestation of the terms which dominated the discourse on enemy warfare (*"mass"*, *"speed"*) can be found in many different journal articles during these years. In April 1984 another article by Lieutenant Colonel John G. Hines, *Assistant to the director, Net Assessment, Office of the Secretary of Defense,* and Philipp A. Petersen, *Analyst for the Department of Defense,* examining the *Termini Deep Operation* and *Deep Battle* was published in *Military Review*:

> *"In effect, the deep operation seeks to destroy the enemy's defenses with several deep finger-like penetrations that are controlled by a single powerful hand rather than with the driving fist of a frontal assault."*[149]

This description reflects exemplarily the imagination of a Warsaw Pact advance along multiple axes with the OMG as a partially separately element, even as it is militarily highly doubtful that any single entity would have been able to control this type of operation, especially at the *"speed"* mentioned. In *Parameters* in 1985, Hung P. Nguyen, PhD Candidate in *Soviet Studies* at *Johns Hopkins University* wrote about the OMG as the *decisive* element in the future: *"The recent reorganization of two tank divisions into a corps-like structure indicated that this formation will comprise the Operational Maneuver Groups (OMGs) of the future."*[150] Tanks were seen as main part of the OMG as described above. Jeffrey Record, *Adjunct Professor of Military History* at *Georgetown University* and *Senior Fellow* at the *Institute for Foreign Policy Analysis* in Washington, wrote in the September/October edition of *Air University Review* in 1985 about the OMG, suggesting even more decrease in reaction times thanks to *echelonment*:

> *"Indeed, the Soviets have for years been increasing the combat power of their first-echelon forces in Eastern Europe, notably the Group of Soviet Forces Germany, while the recent development of the so-called Operational Maneuver Group and its associated*

[148] Hanne, William G.: Doctrine, not Dogma, in: Military Review, June 1983, p. 11-25, here p. 20f.
[149] Hines, John G. / Petersen, Philip A.: The Soviet Conventional Offensive in Europe, in: Military Review, April 1984, p. 2-29, here p. 7.
[150] Nguyen, Hung P.: Soviet Thinking on the next Land War, in: Parameters, Vol. XV, No. 4, 1985, p. 41-47, here p. 42.

doctrine suggests that they are also attempting to decrease the amount of time required to commit second-echelon forces."[151]

Jeffrey Record as well wrote about the *"lack of any assurance that political decision makers will act effectively in time, or even act at all, on whatever warning is received."*[152] Now one can see the image of a nuclear strike prevented by slow political decision processes. In the October edition of *Military Review* in 1985 Captain Stephen P. Aubin, *Editor of Military Intelligence*, and Captain Robert E. Kells Jr. from the *513th Military Intelligence Group*, analyzed Soviet military thought, arguing quite similarly that the chance to resort to nuclear strikes could be denied by the employment of OMGs:

"They are moving toward a posture by which they could overwhelm the West on the conventional level alone, hoping to deny the West even the chance to resort to nuclear weapons."[153]

The image of a quick and concentrated Soviet advance was then also displayed by Lieutenant Colonel Stephen T. Rippen, *Commanding Officer* (CO) for *First Battalion*, *4th Infantry*, *3d Infantry Division*, in *Air University Review* May/June edition 1986:

"Second-echelon forces and operational maneuver groups (OMGs) would be used for exploitation. […] Their entire structure is designed for fast-tempo operations that can be executed to defeat NATO forces, presenting them with a fait accompli, before NATO can execute a nuclear option."[154]

Therefore again *"speed"* can be found as describing term for the Soviet assault using OMGs. And former TRADOC commander and then USAREUR General Otis described the threat posed by the OMG in front of a *Royal United Services Institute* (RUSI)[155] audience in 1988 as follows:

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[151] Record, Jeffrey: Defending, Europe Conventionally: An American Perspective on Needed Reforms, in: Air University Review, September-October 1985.
[152] Ibid.
[153] Aubin, Stephen P. / Kells Jr., Robert E.: AirLand Battle Doctrine: Soviet Strategy Revisited, in: Military Review, October 1985, p. 42-52, here p. 45.
[154] Rippen, Stephen T.: An Army and Air Force Issue: Principles and Procedures for Airland Warfare, in: Air University Review, May-June 1986. Rippe wrote a thesis at the CGSC as well, stating similarly, cf. Rippe, Stephen T.: An Army and Air Force Issue: Principles and Procedures for Airland Warfare – A perspective of operational effectiveness on the modern battlefield, U. S. Army Command and General Staff College, Fort Leavenworth, KS, 1985, p. 69.
[155] The *Royal United Services Institute for Defence and Security Studies* is a British defence and security think tank.

> *"The formation and training of operational maneuver groups in the Warsaw Pact have nothing to do with defense. Warsaw Pact regiments are made up of combined arms, consisting of armor, infantry, and artillery, all under a regimental commander. Soviet operations under this regimental structure tend toward the offensive. […] They have developed a new type of army corps that can deal in relatively independent operations and exploit breakthroughs. […] If we consider their capabilities, their modernization, and their almost totally self-propelled and nuclear-capable artillery, we find a force that is organized and equipped for offensive action."*[156]

These text passages[157] have in common that they try to paint a picture of a battle possibly lost before it was begun. The OMG seems to be the projection surface for the image of a massive, mechanized attack force of the Warsaw Pact, which would be able to leverage a traditional understanding of nuclear deterrence. The used terms are mainly *"mass"* or *"speed"*. A United States Army image of war centered around numbers and *"firepower"* comes together as well; problems and frictions (in a clausewitzian sense) are left out by the authors of these articles which leads to the contemporary image of a "*clean war*". *"Firepower*", then, is together with *"maneuver"* one of the main terms on which many discussions are based. Different views exist on whether an enemy force in the field can be beaten only by using clever tactics or by technical means, e.g. *"firepower"*. The Soviet side was thought to use *"firepower"* more as a suppressing element of warfare, enhancing *"maneuver"*, or *"mass"* and *"speed".*

If one follows the propagated assessment of the situation in Europe, there were only two alternatives for NATO in the contemporary situation to cope with the *conventional* threat which the Warsaw Pact seemed to present: either one stopped part of the attacking forces at the inner German border and lead a counterattack, whereby one had to concede part of the *Bundesrepublik Deutschland* (BRD). However, NATO had pledged in the context of *Forward Defense* as early as in the 1950s to not concede any territory to the enemy.[158] The alternative would have been therefore to defend at the inner German border, but this bore

[156] Otis, Glenn K.: Royal United Services Institute, Future Concepts and Capabilities in the NATO Central Region, 11 May 1988, AHEC, Glenn K. Otis Speeches, 1987-1989, Box 4, p. 1f.

[157] More articles about this subject: Donnelly, C.N.: The Soviet Operational Maneuver Group: A New Challenge for NATO, in: Military Review, March 1983, p. 43-60; Dick, Charles J.: Soviet Operational Concepts, in: Military Review, September 1985, p. 29-45, especially p. 33f.

[158] Critics, mainly from the United States, viewed the attrition battles at the inner German border corresponding to this concept as meaningless, and demanded a doctrine based on *maneuver war*, cf. hereby Mearsheimer, John J.: Maneuver, Mobile Defense, and the NATO Central Front, in: International Security, Vol. 6, No. 3, Winter 1981/82, p. 104-122.

the danger of an earlier Soviet breakthrough and an early Warsaw pact victory thanks to the *echelons* or quantitative superiority, respectively.[159] Hung P. Nguyen wrote in *Parameters* in 1985:

> *"Exploiting the breakthrough of a section of the defense, highly independent forward tank formations are funneled through the gap to achieve a rapid thrust into the depth of the defense in coordination with deep artillery strikes and air attacks. These tank forces then act as a lever turning on a moving fulcrum composed of the all-arms main forces, which also serve as the 'magnetic steamroller' that holds opposing forces forward and crushes them."*[160]

The expression of a *"magnetic steamroller"* serves as visualization of the presupposed numerical and even doctrinal superiority of the Warsaw Pact. NATO analysts also imagined the latent danger of a Soviet surprise attack with some of its motorized regiments out of its garrisons in Eastern Europe, which would have prevented the arrival of United States reinforcements at the front lines.[161] However, United States Army analysts saw this scenario to be more or less unrealistic because it contradicted the supposition that the Warsaw Pact would ready multiple *echelons* to gain an overwhelming victory. Under these circumstances NATO perhaps would have succeeded at gaining the upper hand after beating back a first wave. In the contemporary perception of NATO, a scenario which saw USSR units on exercise in Eastern Europe or the DDR mounting a surprise attack had a higher probability of occurrence, according to Citino. But Hines and Petersen formulated the scenario which was seen as the most probable:

> *"The earliest penetrations probably would be by division and even army-size operational maneuver groups (OMGs) that are specifically organized and equipped for deep, large-scale raid missions. Through early destruction or seizure of objectives deep in NATO territory and the rapid fragmentation of NATO's forward defense on a broad front, the Soviets would seek to quickly reduce the perceived utility of continued resistance."*[162]

The image portrayed in this last statement did in fact develop in the early 1980s. The terms *"mass"* and *"speed"* had already dominated the perfected Soviet attack in the late 1970s,

[159] Citino, Blitzkrieg to Desert Storm, p. 234f.
[160] Nguyen, Hung P.: Soviet Thinking on the next Land War, in: Parameters, Vol. XV, No. 4, 1985, p. 41-47, here p. 42.
[161] Cf. Headquarters, United States Army Training & Doctrine Command: US Army Operational Concepts, TRADOC Pamphlet 525- 5 The AirLand Battle and Corps 86, 25 March 1981, p. 5.
[162] Hines / Petersen: The Soviet Conventional Offensive in Europe, here p. 3.

best displayed by ALFA's *"blitzkrieg style"*[163] Soviet attack in 1978. Discerning the discourse on the enemy and its elements of *"mass"* and *"speed"* seems appropriate. The question now was: How should the United States Army's style of warfare or doctrine be planned to counter the imagined overwhelming Warsaw Pact attack?

1.4. *Active Defense*: attrition warfare in Central Europe

This chapter will show how the newly established TRADOC did formulate new doctrine to cope with the aforementioned Warsaw Pact threat by employing a new doctrine with *Active Defense.* The concept will be described as well as the image of war it displayed.

The concept

TRADOC naturally had the purpose of finding ways to cope with the Soviet superiority by using newly developed technologies, new doctrine, new training and a new professionalism.[164] General DePuy, who led TRADOC from the beginning until 1977, was assigned to the *manager*-type of United States officer by Linn. The group of officers named as *managers* evaluated warfare in Vietnam as *inefficient* as well as insufficiently *effective* and they saw a deficiency in the huge number of officers (in relation to soldiers in the field) who brought with them too much bureaucracy to the rear of the battlefield.[165] In 1976 a new FM *100-5*, which described the concept of *Active Defense*, was written under the guidance of DePuy. It stipulated training and technology as means against the numerical massively superior armies of the Warsaw Pact. First detailing the Army's objectives, the *Manual* then quickly described *"Modern Weapons on the Modern Battlefield"* before defining the Army's doctrine (*"How to Fight*") and then going into details about different subjects in-depth (*Offense*, *Defense*, *Retrograde*, et cetera). Especially the weapons part held lots of diagrams and pictorials, describing the development of weapons systems. The doctrine part then outlined how *"firepower*" should substitute manpower and even that part held graphs about first round hit probability and so on. That *manager* attitude led to the FM *100-5*, 1976 being more a detailed mathematician's guide on how to beat back a Warsaw Pact attack in a more technical way. Kretchik criticizes the 1976 version of FM *100-5* as resembling *"nineteenth-*

[163] Air-Land Battle Primer, June 1978, p. 3-2.
[164] Lewis, The American Culture of War, p. 300. TRADOC should prepare the United States Army for the introduction of the so-called *Big Five*, cf. hereto Tomes, US Defense Strategy, p. 73.
[165] Linn, Echo of Battle, p. 200f. To DePuy's role cf. Krepinevich, The Army and Vietnam.

century army drill manuals in form and content."[166] Indeed it has rather the look of a comic than that of a serious military handbook. Jonathan M. House describes General DePuy's procedures and solutions as being too *"simplistic, more appropriate for teaching recruits in basic training than for equipping officers to make their own decisions based on a commonly held set of doctrinal principles."*[167] NATO or United States forces should be able to hold positions, even if inferior three-to-one or more. The end state should be a concentration of forces at the point of Soviet breakthrough at the *culminating point,* according to *Clausewitz*, as Tomes describes; in reality, only a geographical point was meant in the *Active Defense*.[168] The FM *100-5* from 1976 mirrored different trends in the United States Armed Forces. Certainly focusing on one threat and one scenario with one possible answer was a first trend, mirrored by a scientific approach[169] with lots of formulas, charts, maps, graphs and statistics. This conception fit well to the approach of the so-called *guardians*, if one wants to put Brian Linn's approach to use. The respective emphasis on training and drill matched, on the other side, more the concept of the *managers*.[170] As NATO forces would have been numerically inferior, they would have had to be deployed against the enemy in a concentrated way:

> *"It is almost inevitable that initially we will be outnumbered in the theater of war. But, whether the mission is to crush an enemy attack or to launch an offensive operation, it is the job of the corps and division commanders to bring about a winning concentration of force at the point of actual combat."*[171]

House argues that the West German government's desire to protect every kilometer of its shallow territory in the United States Army's sector would have obligated the United States Army in Europe to defend along the interzonal border established in 1945, with little space for delaying or maneuver tactics. So at least during the first battle(s) of the contemporary war scenario United States Army units would have had to fight outnumbered and outgunned

[166] Kretchik, Walter E.: U.S. Army Doctrine – From the American Revolution to the War on Terror, Kansas, 2011, p. 197.
[167] House, Jonathan M.: Combined Arms Warfare in the Twentieth Century, Lawrence, KA, 2001, p. 240.
[168] Tomes, US Defense Strategy, p. 74f. Citino writes about *holding the line*; lateral maneuvers should help to concentrate firepower at the point where Warsaw Pact forces seemed to breakthrough; hereto cf. Citino, Blitzkrieg to Desert Storm, p. 257, as well as Linn, Echo of Battle, p. 104. The US-conception of Maneuver seems really to conform to mainly geographical parameters.
[169] The FM 100-5 from 1976 held many data which could be of use in a much scientifically thought war in Europe like weather data or target acquisition times for anti-tank guided missiles. Cf. Romjue, From Active Defense to AirLand Battle, p. 10.
[170] Linn, Echo of Battle, p. 104f.
[171] FM 100-5, Operations, 1976, p. 3-5.

by a superior Soviet foe.[172] The concentration of United States Army forces seemed therefore indispensable as it was agreed that the enemy would bring its forces to bear on one point on the frontlines *en masse* as well: *"Soviet doctrine calls for the concentration of forces of up to six divisions echeloned in depth on a 10 to 12 kilometer front."*[173] According to the threat being discussed in military publications the FM *100-5 Operations* from 1976 said clearly for which type of war the United States Army had to prepare: *"[…] the first battle of our next war could well be its last battle: belligerents could be quickly exhausted […] The United States could find itself in a short, intense war – the outcome of which may be dictated by the results of initial combat."*[174] Subsequently, the FM described how the enemy would have looked like in this future war in the eyes of the authors:

> *"The US Army must prepare its units to fight outnumbered, and to win. […] The armies of the Warsaw Pact, fashioned on the Soviet model, incorporate masses of tanks, backed by an impressive industrial base producing large numbers of quality armored fighting vehicles. […] it emphasizes heavy concentrations of armor."*[175]

Here again an image of masses of attacking Warsaw Pact tanks was shown as well as the capability to stop this *"mass"*. Interestingly, here the quality of the Soviet armor was deemed high.

The role of modern technology

Active Defense was strongly bound to the development of new weapons systems (and therefore technology, itself an enduring discourse) and the deployment of United States forces in known and prepared terrain. The circumstances necessary to win the battle comprised the concentration of United States forces on the right time at the right spot: the control of military means to bring maximum *"firepower"* to bear on a desired area; combined arms warfare and coverage, concealment as well as deception; and, last but not least, the crews of weapons systems had to be maximally *efficient*, whereas the FM did not turn this *"efficiency"* into precise numbers.[176] As Kretchik describes*, "Modern technology's ability to generate firepower took priority over maneuver. […] But doing so meant that the*

[172] House, Combined Arms Warfare, p. 238.
[173] FM 100-5, Operations, 1976, p. 3-6.
[174] Ibid. p. 1-1.
[175] Ibid. p. 1-2 and 2-2.
[176] Romjue, From Active Defense to AirLand Battle, p. 6ff. Cf. also Skinner, Airland Battle Doctrine, p. 4.

Army had relegated people to being components of a machine."[177] The discourse on *"firepower"* and *"maneuver"* will be visible throughout the study at hand. General Starry was quoted in 1978 at the annual AUSA symposium: *"At battalion level and below, the battle is won by destroying enemy systems – servicing targets."*[178] So indeed, Starry saw mainly *"firepower"* being the *decisive* element to win, being connoted to technological means.

In a special chapter in the FM *100-5* from 1976 the United States Army described what stood in the center of warfare: *"Changes in intensity and lethality of modern battle and the need to fight outnumbered present the US Army with challenges greater than those faced on previous battlefields. The objective, however, remains unchanged – to win the land battle."*[179] The idea of being numerically inferior was downright talked up in this edition of the FM *100-5*. Support by the United States Air Force in favor of ground operations was envisioned, too:

> *"The Army expects the USAF to penetrate enemy air defenses and to attack reserve and reinforcing units, fire support sites, command and control facilities, and logistic activities. The Army recognizes that air forces are most effective against the larger, more vulnerable targets deep in the enemy's rear."*[180]

Interestingly, a whole chapter in the 1976 edition dealt with the *terminus Air-Land Battle* (hereby the spelling has to be duly noted), whereby the authors wrote at the beginning of the chapter, lapidary, *"the Army cannot win the land battle without the Air Force. In fact, the Army consciously avoids the development of weapons or equipment to perform functions which the Air Force can perform more effectively."*[181] This is very interesting, especially with the background of the discussion on the *Airmobile Concept* and the dissatisfaction of the United States Army with the *Close Air Support* (CAS) provided by the Air Force in Vietnam.[182] Cooperation between Army and Air Force was hereby of utmost importance. Therefore, as early as 1975 a study group was established including ALFA in 1978 cooperation in-between *Air Staff* and *Army Staff* and was institutionalized with a treaty between TRADOC and

[177] Kretchik, U.S. Army Doctrine, p. 198.
[178] Starry, Donn A.: Remarks to the AUSA Symposium, Fort Benning, Georgia, April 24, 1978, AHEC, Donn A. Starry Collection, Speeches, Books I to V, 1959 to 1980, Box 36, Folder 3.
[179] FM 100-5, Operations, 1976, p. 3-2.
[180] Ibid. p. 3-7 bis 3-8.
[181] Ibid. p. 8-1.
[182] Cf. Krepinevich, The Army and Vietnam, p. 114 among others.

Tactical Air Command (TAC).[183] Testing to integrate Army and Air Force assets into *Joint Air Attack Teams* were conducted:

> *"The joint air attack team is a combination of US Army attack helicopters and US Air Force close air support aircraft operating together to locate, engage and destroy tanks, armored vehicles and other battlefield targets. It is normally supported by US Army field artillery or mortars, sometimes by both."*[184]

ALFA was an integrating element from 1975 towards an inclusion and teamwork with the Air Force. Within the scope of a memorandum, the Army's *Corps* should select targets in the *"depth"* of the area in the future, and then the Air Force should select the means and provide it to the Army. This way CAS should stay under the control of the ground forces.[185] An ALFA primer in 1978 had stated earlier:

> *"Air and land elements must fight as an integrated team to achieve the needed concentration. As an example, the Air Force will provide close air support (CAS) to engaged ground forces in those areas where success of the overall effort is at stake. The Army in turn provides support in the suppression of enemy air defenses through firepower and electronic means."*[186]

So in exchange, the Army should use its own *"firepower"* to help the Air Force fly its missions. And further: *"The Air Force can strike advancing Warsaw Pact forces while they are still beyond the range of Army weapons and can continue to strike Pact forces in concert with the Army after the ground forces engage."*[187] Already the idea of *AirLand Battle*, which will follow in the next chapter, was filtering through. In 1979 the *Joint Second Echelon Interdiction Study* followed. In 1982 the concept *Joint Attack of the Second Echelon* (J-SAK) was written, which was then tested in exercises in the *National Training Center* (NTC). The authors of said study proposed the possibility of having Army officers identifying targets on every level. The decision if the selected target should be attacked by means organic to the erstwhile unit or if it should be given to the next higher echelon of command would be made

[183] Lewis, The American Culture of War, p. 303. TAC was established to provide a balance between strategic, air defense, and tactical forces of the United States Air Forces.
[184] Headquarters, Department of the Air Force: Unclassified History of the 354 Tactical Fighter Wing, Myrtle AFB, South Carolina - Draft, Joint Air Attack Team Tactics, TAC / TRADOC How to Fight Manual, April 1, 1978, AFHRA, K-WG-354-HI V.2, p. 1.
[185] The AirLand Battle and Corps 86, p. 62f. Van Crefeld sees the *AirLand Battle's origins in ALFA*, at least thought-wise. Cf. Van Creveld, The Age of Airpower, p. 240.
[186] Air Land Forces Application Agency: Air-Land Battle Primer, Air Land Forces Application Agency, Langley AFB - Fort Monroe, Virginia, HQs USAFTAC/USATRADOC, June 1978, p. 2-2.
[187] Ibid. p. 3-1.

in cooperation with the responsible *Forward Air Controller* (FAC). The study *Joint Suppression of Enemy Air Defenses* (J-SEAD) had a similar way; enemy air defense systems on the battlefield should be primarily suppressed by Air Force means as targets of opportunity, but their suppression by ground fire could also be requested. And in 1983 efforts to cooperate peaked in the *Agreement of Joint Employment of the AirLand Battle Doctrine*.[188] Here the spelling had already changed due to the *AirLand Battle* doctrine.

Army and Air Force cooperation

Nevertheless, in the Air Force discussions took place if at all, (and if yes, to what extent?) CAS was part of the Air Force's missions.[189] Apart from CAS, *(Battlefield) Air Interdiction* (BAI) too, belonged to the Air Force's missions. The Air Force spotted absolutely a (secondary) role for itself in the ground war, as described in the following paragraph in the *Air Force Manual 1-1* from 1975:

> *"Air interdiction operations are conducted to destroy, neutralize, or delay enemy ground and naval forces before they can be brought to bear against friendly forces. These operations also restrict the combat capability of enemy forces by disrupting their lines of communications and by destroying the supplies that sustain an effective level of enemy activity."*[190]

The *Manual* explicitly stated that deterrence of strategic nuclear war was the highest defense priority of the United States and the Air Force. Wielding two of the three nuclear *triad* elements (ICBMs and bombers), it listed the *strategic attack* as its first and foremost mission.[191] The 1979 AFM *1-1* edition as well listed *Strategic Aerospace Offense* before *Air Interdiction*:

> *"Air Interdiction operations are conducted against the enemy's military potential before it can effectively be used against friendly surface forces. These operations restrict the combat capability of the enemy by delaying, disrupting, or destroying their lines of communications, their forces, and their resources. It is used to disrupt enemy plans and time schedules."*[192]

[188] Tomes, US Defense Strategy, P. 73f.
[189] Lewis, The American Culture of War, p. 303.
[190] United States Air Force: Air Force Manual 1-1, United States Air Force Basic Doctrine, January 1975, p. 2-2 as well as 3-2 and 3-3.
[191] AFM 1-1, 1975, p. 1-2 as well as 3-2 and 3-3.
[192] United States Air Force: Air Force Manual 1-1, Functions and Basic Doctrine of the United States Air Force, February 1979, p. 2-13.

The AFM *1-1* from 1979 comprised, according to Tomes, early basic approaches to *AirLand Battle Doctrine*; not only replenishments but reinforcing enemy troops should be attacked too. The same can be said about the 1975 edition, as seen above.

Comparing these three *Manuals* (AFM 1-1, 1975; FM 100-5, 1976; AFM 1-1, 1979) in the 1970s is relevant as they show the increasing development of the idea of *combined arms warfare* on the operational level (and therefore the integration of aerial means) at least in spirit *joint*. Still the strategic level would have top-most priority in the Air Force *Manuals* for the time being. Tomes compares the AFM *1-1* from 1979 with a *Comic Book*, which comprises many pictures, but few new ideas and no progress at all. Indeed, compared to its immediate predecessor, which was small and somewhat austere, the 1979 edition obviously tried to make the Air Force better off and promote its main deterrence mission to the public and its own airmen. But the AFM *1-1* in 1979 still paid relatively little attention to the introduction of PGMs, electronic warfare, strategic airlift or CAS. PGMs had already been used in the later phases of the Vietnam War and using *Forward Observers*, Air Force fighter aircraft had already supported ground forces. Parts of the Air Force (primarily proponents of the nuclear *triad*) were not content to loose nuclear capable fighter aircraft in a first, *conventional* phase of war in Europe.[193] Only at the beginning of the 1980s more and more fighter pilots held important positions in the Air Force leadership after it was dominated by bomber pilots for decades.[194] The strategic level lost top priority which facilitated the demand for *General Purpose Forces* which were able to bring more power to the operational level, too, and act in concert with ground forces. The Vietnam War led to the realization on a broad front that more flexible, tactically deployable means as transport aircraft, aerial refueling craft, reconnaissance aircraft, *Electronic Warfare* aircraft (EW), aircraft suited to CAS or to suppress enemy ground-based air defenses (SEAD*, Suppression of Enemy Air Defenses*) and Laser Guided Bombs (LGB) were needed. This insight led to the development of a new generation of fighter aircraft such as the *F-15*, the *F-16* and the *A-10*.[195] This evolution of Airpower culminated when strategic *B-52 Stratofortress* bombers in the 1980s began further to train for *conventional* deployments as they had done in Vietnam already.[196]

[193] Tomes, US Defense Strategy, p. 82.
[194] Cf. also Van Creveld, Martin: The Age of Airpower, New York, 2011, p. 240.
[195] Huston, The US Air Force, p. 449.
[196] Van Creveld, The Age of Airpower, p. 76f.

While *Active Defense* therefore brought many technological developments and an increased Army-Air Force cooperation in concept development, it also stipulated a very narrow view of potential future war scenarios. The FM *100-5* 1976 show explicitly how the United States Army (and its allies) would fight while outnumbered in Central Europe. *Active Defense* therefore did indeed lay the foundation for many of the discourses and discussions which would dominate the image of war in the next few years.

1.5. The *Big Five* and the *Offset Strategy*

Apart from a new doctrine, technical innovations seemed to be necessary to overcome the numerical superiority of the Warsaw Pact in Europe, as shown above. Technology as a driving force of military imagination was not entirely new at this time, but, as will be seen, it does indeed get into full spin during the 1980s. Early efforts culminated in the *Offset Strategy* in the 1970s with the aim to further disavow the Warsaw Pact technologically. Advances in the area of electronics enabled the development of more and more advanced computers as well as electronic warfare and more *precise* weapons such as the *Hellfire Missile* and the *Copperhead Artillery Projectile*.[197] As the United States Armed Forces developed an even more technologically-driven image of war, this chapter will explain some of the important developments taking place in the 1970s and 1980s which still are mainstays of the United States' *conventional* military advantages until today.

Big Five

Emblematic for the idea of an aspired technological superiority to offset the numerical inferiority were the so-called *Big Five* already mentioned above. Among these five systems is counted the *M1 Abrams* MBT, introduced in 1980. It was powered by a gas turbine (a novelty for the United States Army), and it had a fire extinguishing system, a digital fire control system, a thermal imaging device, as well as a fully stabilized gun wherewith the *M1* could fire at moving targets while driving. The further developed *M1A1* had the edge against its opponents concerning the range of its gun, target acquisition, and tracking system. The *M1A1* should have also coped with a direct hit by the Soviet 125mm gun, which its contemporary opponents *T-72* and *T-80* also had. A new armor consisting of ceramics, steel,

[197] Mahnken, Technology, p. 124; cf. also Tomes, US Defense Strategy, p. 58f. The *Hellfire* is an *Air-to-Surface-Missile* (ASM) first developed for use against enemy armor and the *Copperhead Projectile* is an artillery projectile which can be guided to its target by laser target illumination.

titan and nylon webbing provided enough protection.[198] The *M1s* companion was the *M2/3 Bradley,* which was introduced beginning in 1981. This IFV was the United States' answer to the Soviet *BMP-1* which had impressive *"firepower"* available thanks to its 73mm gun and ATGMs. With a 25mm cannon, TOW missiles (*Tube Launched Optically Tracked Wire Guided*), and armor consisting of aluminum and laminate, the *M2/3* should have assisted the *M1* on the battlefield with its own weapons and dismounted troops. However, its armor was criticized as insufficient even before introduction. The armor was then improved with the *M2A2,* and it proved to be absolutely sufficient in the 1991 *Operation Desert Storm*.[199] With the duo *M1*/*M2* mechanized units should have fought battles out shorthanded; units would have had to *"maneuver"* quickly to be able to overcome multiples of their own number on the battlefield as imagined with *Active Defense*.[200] Other elements of the *Big Five* were the medium utility helicopter *UH-60 Blackhawk*, the attack helicopter *AH-64 Apache,* and the SAM system *Patriot*. Especially the *Apache*, introduced in 1986, should have helped as a heavily armed successor to the *AH-1 Cobra*, a Vietnam-era derivative of the *Utility Helicopter UH-1 Huey*, to stop the Warsaw Pact's armored armies in Europe. The *Hellfire Missile* should have enabled the *Apache* to destroy as many enemy armored vehicles as possible. The *Blackhawk* was not only thought to transport the soldiers in air assault or airmobile divisions, it should also have moved their heavy means such as howitzers. And *Patriot* should have defended mechanized forces as well as forward bases against aerial attacks.

With the *Assault Breaker* project the *Defense Advanced Research Projects Agency* (DARPA)[201] then as well wanted to gain the capability to destroy 2,000 enemy vehicles in a distance of between 20 and 100 kilometers behind the frontlines in a time period of about ten hours. Sensors such as the *Ground Moving Target Indicator* (GMTI) and the *Stand-off Target Acquisition System* (SOTAS), which later on would be merged into *Joint Surveillance Target Attack Radar System* (JSTARS), should detect enemy vehicles through greater distances.[202] The phased-array radar built into the *E-8* JSTARS is able to monitor the movement of troops and materials on distances up to 250 kilometers, independent of any weather influence. The first *JSTARS* were introduced in 1988 and gave their debut in the 1991 Gulf War. The

[198] Mahnken, Technology, p. 132f as well; cf. also Lewis, The American Culture of War, p. 356.
[199] Mahnken, Technology, p. 134.
[200] Lewis, The American Culture of War, p. 304.
[201] The as *Advanced Research Projects Agency* (*ARPA*) in 1958 founded agency belonging to the US Department of Defense is responsible of advanced weapons systems development.
[202] Mahnken, Technology, p. 130; cf. also Tomes, US Defense Strategy, p. 66-68.

Multiple-launch Rocket System (MLRS) could then fire together with attack planes and helicopters into the *"*depth*"*. MLRS was introduced into United States Army service in 1983 and has a range in excess of 40 kilometers; the *Army Tactical Missile System* (ATACMS) munitions, which can be fired from the same box launcher, reach about 300 kilometers. The system is capable of mining an area of one square kilometer with submunition firing one salvo. While MLRS was not counted in the *Big Five*, it certainly did fit together with them into the ongoing discourse on technology. While the Warsaw Pact's advance was associated with the terms *"mass"* and *"speed"*, *"firepower"* should then be the main answer the United States prepared.

Air Force developments

Apart from the mentioned development of new fighter planes for aerial combat and CAS, measures against enemy air defense were intensively searched for in order to be able to put *"firepower"* to good use against enemy units. In Vietnam in 1965, every sixteenth enemy SAM had downed one United States plane. Using electronic countermeasures this enemy rate of success was then brought down to one in a hundred over the course of the war.[203] In the already mentioned Arab-Israeli War in 1973, Soviet SAMs[204] once more proved to be immensely *effective*, so further electronic countermeasures were developed. But the USSR seemed to be one step further ahead every time, which led to the initiation of the *Stealth* program in 1974. *Stealth,* or low observable technology, covers a range of techniques to make them less visible to radar, infrared, or other detection methods.[205]

Therefore, projects such as the *F-117*, *B-1* and *B-2* were being started. The *B-1A* strategic bomber flew for the first time in 1974. This aircraft was thought to be the successor to the *B-52* and should intrude in low flight into Soviet territory to attack using nuclear weapons. After the Carter administration issued a stop order in 1977, the program was re-initiated in 1981 under the Reagan presidency. The *B-2 Stealth bomber* flew for the first time in 1988. Its design is based on the flying-wing principle, whereas a drastically reduced *Radar Cross Section* (RCS) results from. With the *B-1* and *B-2,* bombers should not only provide the capability to intrude Soviet air defenses, but they should also be pressed to permanently and expensively upgrade their systems. Defense Secretary *Weinberger* stated in 1987 that the

[203] Huston, The US Air Force, p. 450.
[204] Especially the *SA-6*. Cf. Tomes, US Defense Strategy, p. 79.
[205] Mahnken, Technology, p. 160-167.

USSR lagged behind the United States in the area of *Stealth* technology according to intelligence analysis.[206] In 1977, the *HAVE BLUE* demonstrator flew for the first time; its design characteristics were later merged into the *F-117* program. The facetted structure of the *F-117* together with radar-absorbing construction materials provided a reduced RCS, but apart from these *high-tech* components, the *F-117* used the undercarriage of the *F-15*, engines and avionics from the *F/A-18,* and the *Fly-by-Wire* system from the *F-16*. So between 1982 and 1990 a whole 59 pieces were provided to the Air Force.

Since 1973 the Air Force led the United States' satellite program as well, which going forward incorporated the efforts of all the services. In 1978 a preliminary version of the later-on GPS-satellite (*Global Positioning System*) was put into orbit, but only in 1995 GPS reached *Full Operational Capability* (FOC) comprising 24 satellites. Also at the end of the 1980s a number of United States satellites, which were able to digitally transmit image to earth, were put into service for the first time. From 1976 until 1988 the *KH-11* (*Keyhole*) type satellites were launched, which, for the first time, did not have to send a re-entry capsule to earth containing the film rolls. This boosted reconnaissance tremendously.[207]

But the United States not only wanted to fight outnumbered on the ground and win thanks to superior quality, it also wanted to counter Soviet development in the fighter aircraft area. Quality here as well had to prevail over numbers. With the *F-15 Eagle*, the Air Force developed a new air dominance fighter which grew ever more sophisticated over time. This happened as well because the USSR had in 1967 revealed the *MiG-25 Foxbat*, an enormously fast high-altitude interceptor aircraft. While the *F-15* was initially thought to only have to outmatch the *MiG-23*, now it had to be able to cope with the *MiG-25*.

Opposition

At the same time, the *Military Reform Movement* formed against these technological advancements and projects. It saw the weapons being developed were fragile and difficult to maintain. The *F-15*, for example, was seen to be too expensive and maintenance intensive even before it was introduced into service; the *M1 main battle tank* was named as a *"cripple"*. The movement's arguing led, in the case of aircraft development, to the

[206] Mahnken, Technology, p. 163f.
[207] Tomes, US Defense Strategy, p. 73.

procurement of cheaper and lighter alternatives such as the *F-16*.[208] The resistance led to the high-low-mix in regard to fighter aircraft (Air Force: *F-15-F-16*; Navy: *F-14-F/A-18*). But in the end, modern technology – and the hopes and beliefs dependent on it – would until today very much determine the development of the image of war in the United States.

1.6. Critique of *Active Defense* and the concept *AirLand Battle*

While technological developments were already on their way in the late 1970s and a new doctrine had been put into service in the Army with *Active Defense*, the glimpse of the developing OMG threat in the Warsaw Pact together with the realization that possibly no nuclear weapons could be used against an attack in Central Europe brought *Active Defense* under scrutiny. This would finally lead to the concept *AirLand Battle,* which then stressed *"depth"* much more, complementing *"firepower"* as a dominating term regarding the discourse on warfare.

Active Defense's deficiencies

In the light of the *Flexible Response* strategy, NATO planners thought to allow bringing tactical nuclear weapons to bear on attacking Soviet tank armies. But in the late 1970s this assumption lost its credibility, as mentioned earlier. General Donn A. Starry, who led TRADOC from 1977 until 1981, also propagated the opinion that NATO or its political leadership, respectively, would react too late. He therefore matched the opinion voiced in military publications.[209] Starry had already commanded *V Corps* in Central Europe in 1976/77 and exercised the *Active Defense* doctrine; he had seen a battle uncoordinated on all levels, predictable tactics and piecemeal destruction of blue forces at the end.[210] Starry criticized the *Active Defense* primarily for its accent on defense. He also judged it as being wrong, as the middle leadership level (*Corps* or *operational level*, respectively) was rarely included in the warfighting.[211] Starry had also visited the theatre of war in Israel 1973.[212] Other critics

[208] Mahnken, Technology, p. 125f. The *Military Reform Movement* as such was not agitating under this name. People such as John Boyd, who campaigned for the *F-16*, as well as other *Tactical Air Command* officers tried as *Reformers* (contrary to the *Technologists*) to reform the procurement processes in the United States Armed Forces and especially in the United States Air Force (being the *Fighter Mafia*). Cf. hereby Hammond, Grant M.: The Mind of War: John Boyd and American Security, Washington, 2001 and Burton, James G.: The Pentagon Wars: Reformers challenge the Old Guard, Annapolis, 1993. (Burton was a member of Boyd's Team).
[209] Tomes, US Defense Strategy, p. 70.
[210] Linn, Echo of Battle, p. 209.
[211] Tomes, US Defense Strategy, p. 111.
[212] Cf. Hofmann, George F. / Starry, Donn A.: Camp Colt to Desert Storm: The History of U.S. Armored Forces, Kentucky, 1999. Lieutenant General Eberhard Burandt, *Deputy Inspector General* of the German *Heer*, wrote to

blamed *Active Defense* as too dependent on *"firepower"* and huge resources as well as holding too much to linear formations.[213] Brigadier General Donald Morelli, *United States Army Readiness Command*, wrote to General Starry: *"We believe it [FM 100-5, 1976] to be too pedantic in parts and not in sufficient detail elsewhere. We must answer some of our more knowledgeable critics – not to necessarily agree but rather set the doctrine straight."*[214] The FM *100-5* from 1976 was further blamed by its critics for being focused only on the first battle of a future war. Indeed, within the scope of the *Active Defense Attrition Warfare* was deemed more important than *Maneuver Warfare*. The enemy should be delayed at the frontlines as long as it took to have reinforcements to facilitate a counter concentration and mount a counter offensive[215]; in principle, *Active Defense* was rather not active, according to contemporary critics.[216] The defenders would have relied mainly on *"firepower"* rather than on *"maneuver"* or initiative, as House argues.[217] General Edward C. Meyer, CSA from 1979 until 1983, argued that the Army did not even possess the means for such an *Attrition War* and would itself end as the defeated war party.[218] House further writes how it was obvious that even if the NATO forces defeated the first and second echelons of a Soviet attack, they would lose the war if they could not slow down and weaken other Soviet units following in the second echelon.[219] Colonel Huba Wass de Czege, one of the writers of the FM *100-5* 1982 and *AirLand Battle*, would then write in 1983 about *Active Defense*: *"The basic question of why this doctrine is now being changed can answered simply: Army commanders became convinced as a result of their field training and war games that they would be unable to defeat the Soviets using the doctrine of 1976."*[220] De Czege expressed the constraint laying on the Army's shoulders to win. General DePuy himself described in autumn 1980, what was thought to be wrong with *Active Defense*:

Starry in early 1983: *„Sehr herzlich danke ich Ihnen für Ihren ausführlichen Bericht über die israelischen Operationen im Libanon. Ihre Darstellung und Bewertung ist für mich von besonderem Wert, da ich ihre Sachkompetenz und Urteilsfähigkeit kenne und besonders schätze."* Cf. Burandt, Eberhard: Letter to General Starry about his assessments of the Israeli Operations in Lebanon, February 1983, AHEC, Donn A. Starry Collection, Correspondence Files, December 1982, to March 1983, Box 30, Folder 5 25.

[213] Linn, Echo of Battle, p. 206.

[214] Morelli, Donald: Review of FM 100-5, Operations, 20 February 1980, AHEC, Donn A. Starry Collection, Correspondence Files, February 1980, to April 1980, Box 20, Folder 3.

[215] Mahnken, Technology, p. 128.

[216] Citino, Blitzkrieg to Desert Storm, p. 257.

[217] House, Combined Arms Warfare, p. 240.

[218] Linn, Echo of Battle, p. 207.

[219] House, Combined Arms Warfare, p. 251.

[220] Wass de Czege, Huba: The U.S. Army's doctrinal reforms, in: United States Army War College: AirLand Battle Doctrine, Art of War Colloquium, US Army War College, June 1983.

> *"Criticism often heard within the working Army include statements such as these: The defensive doctrine is too reactive – the enemy calls the tune. There is too little offense in the defense. Or, put another way, too little action in the active defense. The defense does not adequately exploit the less flexible and more centralized procedures of the Russians by retaining the initiative and confronting him continuously with new situations to which he will find it difficult to respond. The defense does not actively integrate fires with maneuver to shape the battlefield in ways advantageous to the defender. Lastly, and most importantly, the active defense is regarded by many officers simply as a delay triggered by the mere appearance of the enemy."*[221]

Therefore, not only would *Active Defense* inadequately integrate "*firepower"* and "*maneuver"*, in its entirety it did not take Soviet doctrine into account. As mentioned earlier, analysts in the United States until the end of the 1970s had seen Warsaw Pact forces only attacking along one line of approach until exercises had shown how Soviet forces systematically tried for gaps and weaknesses in the defense perimeters. By using *Active Defense* one left the initiative to the enemy.[222] Critics mentioned also that *Active Defense* provided only for minimal reserves, a pessimistic attitude and only focused on the European theatre.[223] Robert R. Leonhard, who was employed by TRADOC temporarily, concluded, like Starry, that the biggest fault of *Active Defense* was the non-existent differentiation between the tactical and the operational level. He also criticized the focus being on the *First Battle* because the Warsaw Pact had the ability, owing to its material superiority and *echelons*, to lose a first battle and yet win the war in the long term. The movement of United States forces only to "*concentrate*" would, realistically, not have been feasible under battle circumstances; the main routes would not have been continuously drivable, troops would have been tired after these movements, and the enemy could have influenced the deployment of forces disturbingly.[224] In the April 1984 edition of *Military Review* Colonel John G. Hines argued accordingly:

> *"The Warsaw Pact's leading echelons would probably try to exert pressure across the entire NATO Central Region front. […] This would help to conceal the location of the main*

[221] DePuy, William E.: FM 100-5 Revised Comments, August 15, 1980, AHEC, Donn A. Starry Collection, Correspondence Files, July 1980, to October 1980, Box 22, Folder 9, p. 3f.
[222] Lewis, The American Culture of War, p. 301.
[223] Skinner, Airland Battle Doctrine, p. 5.
[224] Leonhard, The art of maneuver, p. 132ff.

thrusts and thereby delay or prevent NATO's lateral redeployment of troops to reinforce defenses on the most threatened axes."[225]

Starry's Central Battle

General Starry had already analyzed 150 battle situations using computer simulations to optimize the conduct of battle within the scope of the concept *Central Battle* as commanding general (CG), *V Corps*. Starry told his audience in 1977, *"After some examination, we decided that, in every conflict, be it game, simulation, or real war, there is a central battle – a place where all the combat systems come together violently. It is the critical place where all the firepower maneuvering forces come together."*[226] Variables comprised the number of enemy tanks, weapons systems, and soldiers, as well as the advancement of the enemy (in kilometers/time period), propagated ranges of weapons systems, and other benchmark data. *"In the place where the central battle occurs, there will be quality weapons whose ranges, accuracy and lethality, will be significantly improved over anything we've known before. The central battle will be extremely dense in both people and weapons systems."*[227] The *terminus Central Battle* not only refers to Central Europe; it seemingly also pointed out the centrality of what the Army planned to fight for. In the scope of this analysis Soviet *echelonment* was focused on for the first time more forcibly to show the uselessness of *Active Defense*.[228] Starry questioned himself as to how many Soviet units could reach the frontlines in which timeframe and how many aerial attacks would be necessary to stop them. *"The field of the central battle will be crowded with large quantities of weapons systems, and such a variety of systems that no single weapon system can cope. To win, it's going to take some balance of everything – a well integrated combined arms team."*[229] As can be seen, Starry also mentioned the Army's burden to win. With the concept *Integrated Battlefield* at the *Field Artillery School* tactical nuclear strikes against a second enemy wave were considered too. The necessity to obtain the *National Command Authority's* (NCA)

[225] Hines, John G. / Petersen, Philip A.: The Soviet Conventional Offensive in Europe, in: Military Review, April 1984, p. 2-29, here p. 4.
[226] Starry, Donn A.: Remarks to Civilian Aides, to Secretary of the Army, in the 5th Army Area, 2 November 1977, AHEC, Donn A. Starry Collection, Speeches, Books I to V, 1959 to 1980, Box 36, Folder 2, p. 3.
[227] Ibid.
[228] Romjue, From Active Defense to AirLand Battle, p. 24ff. Cf. also Leonhard, The art of maneuver, p. 136.
[229] Starry, Donn A.: Remarks to the AUSA Symposium, Fort Benning, Georgia, April 24, 1978, AHEC, Donn A. Starry Collection, Speeches, Books I to V, 1959 to 1980, Box 36, Folder 3.

approval for the release of nuclear weapons was considered to be a hampering circumstance, as could be seen in the general thrust in the military publications analyzed.[230] Starry is named by Citino as the right man at the right time, who brought the United States Army back onto the right way after Vietnam.[231] His idea was to attack the enemy reinforcements, which would reach the FLOT (*Forward Line of Troops*)[232] after a first *wave* a long time before they could reach the frontlines at all. Using a further developed *Interdiction* (done by Airpower and rocket artillery) and the so-called *Integrated Battle Planning*[233] *conventional* as well as chemical and nuclear weapons should be deployed.[234] Starry focused in his concept on offensive operations, *"firepower"*, *"speed*", *"maneuver*", as well as human factors such as training, exercising, leadership, courage, and character. He imagined the modern battlefield as being like the one in the Arab-Israeli War, as very compact. While tanks and mechanized formations hit each other on the ground, aerospace would be full of fighter aircraft and attack helicopters, which fought each other as well as targets on the ground, being themselves fired upon by SAMs. At the same time, leadership would be of utmost importance under these circumstances as well as being rather difficult. Commanders would not have a splendid amount of time to take decisions, which made eventuality plans absolutely necessary. The antagonist with the numerical superiority on his side would not necessarily prevail, contemporary analysts argued, but rather the one who took the initiative and kept it had advantage.[235] In the May edition of *Military Review* in 1982 John S. Doerfel, *Chief*, *Concepts Division*, *Directorate of Combat Development, United States Army Field Artillery School*, discussed the solution to the dilemma faced by NATO in case of a possible Warsaw Pact advance as mentioned and described already:

> *"NATO success requires the defeat of enemy armies through combined air and ground actions and a resultant ability to maneuver in support of the theater mission. […] To be successful, the application of maneuver and air/ground firepower against uncommitted second-echelon forces must be achieved early."*[236]

[230] Starry, Remarks to the AUSA Symposium, 1978, p. 35ff.
[231] Citino, Blitzkrieg to Desert Storm, p. 261.
[232] The location on the battlefield where the foremost blue forces in respect to the attacking direction are, for example recon troops.
[233] Cf. the concept of the *Integrated Battlefield* by the artillery, as mentioned earlier.
[234] Citino, Blitzkrieg to Desert Storm, p. 261f; cf. also Lewis, The American Culture of War, p. 301.
[235] Lewis, The American Culture of War, p. 301.
[236] Doerfel, John S.: The Operational Art of the Airland Battle, in: Military Review, May 1982, P. 3-10, here p. 5f.

"Maneuver" and especially *"firepower"* should now prevent Warsaw Pact reinforcements from flowing to the frontlines. Both these terms would dominate discussions on warfare in the near future especially regarding the ground battle as they are the counter argument opposite *"mass"*. As early as in 1981 TRADOC published a preliminary concept towards a new doctrine, which had been drawn under the guidance of Starry. The concept *The AirLand Battle and Corps 86* demanded the *Deep Attack*, battling with *"firepower"* enemy forces moving up to isolate the first wave at the frontlines.[237] Bringing fires to bear against enemy forces moving up to the frontlines should enable own *"maneuver"*. Enemy strongpoints or key systems should also be targeted with fire.[238] This concept differed from the Soviet idea of the *Deep Operation* which rather saw *"maneuver"* in *"depth"* and less emphasized *"firepower"*. Under the axiom *Extending the Battlefield,* the foremost enemy *wave* should be destroyed at the first encounter, and, at the same time, a second *wave* had to be attacked in the *"depth"* of the battlefield and prevented from intervening at the FLOT in order to take the initiative from the enemy, making him collapse in the end. A strong *Covering Force* should not yield territory without fighting: *"They fight to destroy as much of the enemy forward of the main battle area as possible."*[239]

German concepts

To be successful at the described battlefield, German concepts such as the *"Auftragstaktik"* were incorporated. The term *"Auftragstaktik"* (engl. *Mission Command*) was never officially part of the German military lexicon, but was rather coined by opponents of the idea of mission-type tactics where subordinates have to understand the intent of their commander's orders, have to be given proper guidance and have to be trained accordingly to act independently.[240] This idea stems from the war realities encountered and analyzed by Clausewitz and other Prussian-German military theorists and generals: *"modern war(fare)"* was shaped by chaos, insecurity and chance. Therefore, offensive, independent, uniform thinking, discipline, judgement and the process of leading, were stressed to be victorious in

[237] Leonhard, Robert R.: The art of maneuver: Maneuver-warfare theory and AirLand battle, Novato, 1991, p. 144.
[238] The AirLand Battle and Corps 86, p. 11ff.
[239] Ibid. p. 45ff.
[240] Cf. Citino, Robert: The German Way of War: From the Thirty Years' War to the Third Reich, Modern war studies, Lawrence, 2005, p. 170ff.

combat.[241] The commanding general, FORSCOM (*Forces Command*), General Robert M. Shoemaker, proposed at a meeting with General Starry in 1981 to adapt the *"Auftragstaktik"* for the FM *100-5* to be developed.[242] But neither in the 1982 nor in the 1986 edition of FM *100-5* is either *"Auftragstaktik"* nor *Mission Command* covered. What can be found, nonetheless, are descriptions about the *"flexibility and reliance on the initiative of junior leaders"* or on *"clearly defined objectives and operational concepts"* as well as about *"a clearly defined main effort"*.[243] Also notable was the United States Army's understanding of *"Auftragstaktik"* in the December edition 1982 of *Military Review* as described by Anthony M. Coroalles, *Aide-de-camp* to the commanding general *4th Infantry Division*:

> *"The next war is likely to be fluid and chaotic […] Such conditions dictate that commanders and subordinates operate from a common thought process. That is, commanders must clearly convey their intent when issuing operations orders to subordinates."*[244]

"Modern warfighting" materials in mass lead to the hereby described chaos on the battlefield in which the commander had to communicate to his troops a clear intention. Apart from the *"Auftragstaktik*" the concept of the *"Schwerpunkt"* (engl. *point of main effort*) was adopted in the scope of renewed works about Clausewitz, translated into *termini* such as *center of gravity* (CoG). The latter is more a literal mistranslation by United States military thinkers: it is not about a point where forces are concentrated but more about a thing or person which concentrates forces and gives them purpose and direction. It is all about unity and connectivity of forces.[245] But the basic idea underlying a new FM should be to locate enemy vulnerabilities and concentration of the own *point of main effort* at exactly the same location, differing from Clausewitz' original idea.[246]

The AirLand Battle and Corps 86

The study *Corps 86* put the *Corps* and the parallel to be introduced operational level as the implementing element for the *AirLand Battle* into focus. The *Corps* should coordinate its own

[241] Sigg, Marco: Der Unterführer als Feldherr im Taschenformat – Theorie und Praxis der Auftragstaktik im deutschen Heer 1869 bis 1945, Paderborn, 2014, p. 174f.
[242] Romjue, From Active Defense to AirLand Battle, P. 59.
[243] FM 100-5, Operations, 1982, here p. 7-2.
[244] Coroalles, Anthony M.: Implementing a Maneuver Style of War, in: Military Review, December 1982, p. 20-25, here p. 24.
[245] Echevarria II, Antulio J.: Clausewitz's Center of Gravity - It's Not What We Thought, in: Naval War College Review, Winter 2003, Vol. LVI, No. 1, p. 108-123, here p. 114f.
[246] Romjue, From Active Defense to AirLand Battle, p. 59.

battle into the *"depth"* with the *Numbered Air Force*[247] in the same *Area of Operations* (AO) and *"work"* in an *Area of Influence* with a *"depth"* of 150 kilometers behind the FLOT as well as an *Area of Interest* as far as 300 kilometers behind the frontlines; the *Corps* should at the same time fight against the first and second enemy *wave.*[248] *AirLand Battle and Corps 86* propagated the absolute necessity of the battle into the *"depth"* of the area as well as the absoluteness of a *"synchronization"* with the battles at the FLOT and in the own backyard (*Rear Battle*), taking place in parallel:

> *"Deep attack is […] an absolute necessity to winning. […] deep attack particularly in an environment of scarce acquisition and strike assets, must be tightly coordinated over time with the decisive close-in battle. Without this coordination, many expensive and scarce resources may be wasted on apparently attractive targets whose destruction actually has little payoff in the close-in battle. […!] It's all one battle."*[249]

Hereby again the constraint to win got into the foreground of the argumentation, why the *Deep Battle* had to take place. General Glenn K. Otis in 1984 spoke about the *"simultaneity"* of the different battles in front of a German audience as *Commander in Chief of United States Army Europe* (CINCUSAREUR):

> *"AirLand Battle doctrine says that when a unit is fighting, it has to orchestrate three forms of battle: the battle at the front (that is where the tanks and the infantry meet head to head); the battle in the friendly rear (because the enemy is going to put stuff in your rear. They're going to put airborne, air mobile, and infiltrators, and so on. So there's going to be some fighting in your rear, and you've got to orchestrate that); and the third element is that you have to fight the enemy in his rear (so that he doesn't have a safe haven)."*[250]

The second enemy *wave* should be slowed, broken up, and destroyed. If not, the enemy would sooner or later reach numerical superiority at the FLOT and break through. *Brigade*, *Division* and *Corps* were therefore altogether obliged to fight the *Deep Battle* on their own level with fires as well as Air Force support.[251] In a downright *Symphony of Destruction*[252]

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[247] A *Numbered Air Force* owns Wings and Squadrons in a certain *Area of Operations*.
[248] The AirLand Battle and Corps 86, p. 40f.
[249] Ibid. p. 3.
[250] Otis, Glenn K.: CINC's Remarks to the Deutsche Atlantische Gesellschaft, Heidelberg, 6 December 1984, AHEC, Glenn K. Otis Speeches, 1984-1985, Box 2, p. 10.
[251] The AirLand Battle and Corps 86, p. 46ff.
[252] Citino, Blitzkrieg to Desert Storm, p. 262.

advances of mechanized forces, *Cruise Missiles*, *Air Interdiction,* and air assaults should impede the arrival of further enemy *waves* on the battlefield whereas *"firepower"* had to be *decisive*. When enemy second echelon units would be disrupted by indirect weapons (especially nuclear ones [sic!]) they would have taken time to reorganize and reestablish control over their subordinate units. During this period, as described by *Corps 86*, United States and NATO forces *"would maneuver to the flanks and rear of the assaulting division and attack to collapse its ability to conduct combat operations."*[253]

Apart from military theoreticians such as Clausewitz and Liddell Hart (*Indirect Approach*), *AirLand Battle*, as illustrated above, incorporated German concepts and put emphasis on the initiative; there was even an active exchange with German officers taking place on an official level.[254] As a result of these contacts involving German officers, the new FM *100-5* had indeed to be based on the *Heeresdienstverordnung* (HDv) *100/100 Truppenführung im Gefecht* from 1974.[255] The concept *AirLand Battle* turned away from the idea of the *guardians* and *managers* and put morals as well as discipline at the same level as a scientific approach. Decentralized leadership and *"synchronization"* were in stark contrast to the micromanagement that took place under *Active Defense*.[256] With the *AirLand Battle,* the weaknesses of Soviet doctrine, as shown above, had to be exploited, including the rigid leadership system, the general tendency to hold precisely onto battle plans at higher command, and the education system, which allowed little creativity and adopted a more scientific approach to the battle.[257] At the same time authors in military publications were deeply concerned with the topic of *Deep Battle* or *Attack* from a United States Army perspective, represented here by Lieutenant Colonel L. D. Holder, *Doctrine Writer* in the *Department of Tactics*, *United States Army Command and General Staff College* (CGSC), in the May edition 1982 of *Military Review*:

> "*The current idea of deep attack stresses the use of the long-range sensors and weapons that are available now and will become more numerous in the future. It places great reliance on our ability to coordinate intelligence from all sources with timely delivery of attacks in depth. Electronic warfare, cannon and missile artillery, and conventional and unconventional ground forces are among the attack means although the Air Force's*

[253] The AirLand Battle and Corps 86, p. 28.
[254] Citino, Blitzkrieg to Desert Storm, p. 263.
[255] The AirLand Battle and Corps 86, p. 42.
[256] Linn, Echo of Battle, p. 209f.
[257] Tomes, US Defense Strategy, p. 112.

battlefield air interdiction capability will be the mainstay of deep attack in the present. […] It will only work in our favor if we take steps to deny the enemy the comfort of tidy, linear operations."[258]

So the United States should, on one hand, try to fight a *non-linear battle* and also, on the other hand, try to synchronize its own efforts. At this point one has to remark that the United States Army's perception of *Deep Battle* or *Deep Attack* differs strongly from the Soviet concept of *Deep Operations*: The first one sees the enemy to be battled with *"firepower"* and the decision reached in the *Close Battle*; the latter bases on *decisive* ground action in the *"depth"* of the area using *"maneuver*" and not mainly *"firepower"*.[259]

1.7. *The AirLand Battle:* FM *100-5 Operations* from 1982 and 1986

When General Starry and his co-authors had finished circulating the concept *AirLand Battle and Corps 86* within the Army, the basic ideas were incorporated in the new 1982 edition of the FM *100-5 Operations*. Another edition was published in 1986, once NATO members voiced critique towards the 1982 edition which proposed the deployment of tactical nuclear weapons without restrictions. In 1986 this guideline was relativized, and it was determined that the deployment of nuclear weapons was only to be done with agreement by the other member states. Hence the doctrine was reasonable to the allies, as especially the BRD would have massively suffered from the use of nuclear weapons on their territory in the defense against Warsaw Pact troops.

The FM 100-5 in 1982

AirLand Battle not only brought *"firepower"* and *"maneuver"* to the center stage of the discourse on warfare, it also changed the perception of the battlefield, which was now thought to be *non-linear* not only geographically but temporally as well. FM *100-5 Operations* 1982 differed not only in its layout and structure but also in focus from its predecessor. The 1982 edition did not have that many graphs and pictures; rather, it focused more on the envisioned warfare, describing every aspect of *"modern war"* and *AirLand Battle* explicitly, in offensive and defensive fashion. The authors of FM *100-5 Operations* 1982 tried well at the beginning to break with the last edition. Hence they wrote in the introduction to the first chapter: *"There is no simple formula for winning wars. Defeating*

[258] Holder, L.D.: Maneuver in the Deep Battle, in: Military Review, May 1982, P. 54-61, here p. 55ff.
[259] Leonhard, The art of maneuver, p. 144.

enemy forces in battle will not always insure victory."[260] This was a stark contrast to the formula used in 1976, which predicted only one *decisive* battle: *"[…] the first battle of our next war could well be its last battle: belligerents could be quickly exhausted."*[261] While the 1982 edition therefore spoke about how only winning the battle would not suffice to win, the 1976 edition had only foreseen one first battle. Warsaw Pact forces would entangle those of the United States in a costly war, as written in the FM *100-5* from 1982: *"To win, we must coordinate all available military forces in pursuit of common objectives. We must retain the initiative and disrupt our opponent's fighting capability in depth with deep attack, effective firepower, and decisive maneuver."*[262] The authors therefore again stipulated how the Army was constrained to win, to defeat the enemy. The *Manual* described as well how the authors saw the enemy *"maneuver*" on the battlefield and what challenges the United States Armed Forces would have to overcome to win:

> *"In modern battle, the US Army will face an enemy who expects to sustain rapid movement during the offense and who will probably use every weapon at his disposal. […] We must be prepared to fight campaigns of considerable movement, complemented by intense volumes of fire and complicated by increasingly sophisticated and lethal weapons used over large areas."*[263]

Here the intense battlefield from 1973 was again shown, focused on *"speed"*. This new edition of FM *100-5* again pointed out that the different parts or areas on the battlefield would become blurred and therefore a *non-linear* battlefield would take place:

> *"Opposing forces will rarely fight along orderly, distinct lines. […] This means that linear warfare will most often be a temporary condition at best and that distinctions between rear and forward areas will be blurred."*[264]

In the 1986 edition the so-called *non-linear* operations were similarly named:

> *"Similarly, from the first hours of battle, deep reconnaissance, air mobility, long-range fires, and special operating forces (SOF) will blur the distinction between front and rear and will impose requirement for all around defense and self-sufficiency on all units."*[265]

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[260] Headquarters, Department of the Army: Field Manual 100-5, Operations, Washington, DC, Department of the Army, 1982, p. 1-1.
[261] FM 100-5, Operations, 1976, p. 1-1.
[262] FM 100-5, Operations, 1982, here p. 1-1.
[263] Ibid. p. 1-2.
[264] Ibid.

The battlefield was, within the scope of the *AirLand Battle*, more and more seen as something moving and chaotic, simply described by the *terminus non-linear*. Chaos would not only prevail in a strictly geographical fashion but temporally as well, as the battle would *simultaneously* be raging against forces arriving at the FLOT as well as against second *echelon* units. The *Manual* from 1986 described in the third chapter, *Operational and Tactical Planning and Execution*, the idea of *AirLand Battle* in a similar way*: "AirLand Battle doctrine recognizes that modern warfare is likely to be fluid and non-linear. Therefore it takes an enlarged view of the battlefield, stressing unified air, ground, and sea operations throughout the theater."*[266] Both FM now imagined a battle taking place that would take days instead of weeks to unfold and argued that the front and rear on the battlefield would become blurred as well.[267] Air Force General Wilbur L. Creech, who commanded *Tactical Air Command* from 1978 until 1984, described the battlefield similarly in 1981 at an *Association of the United States Army* (AUSA) event:

> *"I suppose the first thing one can say about the battlefield on which we will fight with our air-land forces is that it will be distant. […] The second thing about that battlefield of the future is that it will be very dynamic, which will recall the battlefields of the past that required all kinds of versatility and flexibility and response to changes on the battlefield – massive surges of activity, very high rates of fire – both in the air and on the land, high sortie rates, the need to attack shallow or deep etc."*[268]

While Creech here indeed spoke a very similar language to Starry or the Army in its FMs, this statement shows perfectly how the United States (at least the Air Force and Army) got away from strictly linear thinking in terms of the battlefield and warfare, away from the picture of a frontline to a *battlespace* (which would later be named that way). General Glen K. Otis, *commanding general*, TRADOC from 1981 to 1983[269] looked forward to the 1990s at a conference in Brazil in autumn 1981: *"The battlefield of the nineties will be inundated with sophisticated combat systems whose range and lethality and employment capabilities*

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[265] Headquarters, Department of the Army: Field Manual 100-5, Operations, Washington, DC, Department of the Army, 1986, here p. 2.
[266] FM 100-5, Operations, 1986, p. 27.
[267] The AirLand Battle and Corps 86, p. 67.
[268] Creech, Wilbur L.: General Creech's Remarks at AUSA, 19 -21 Oct 1981, AFHRA, 168.7339-745, p. 1f.
[269] Otis would afterwards serve as *Commander in Chief, United States Army Europe/Commander, Central Army Group* (CINCUSAREUR/COMCENTAG) from 1983 to 1988.

surpass anything known in the history of warfare."[270] Saying this Otis had already shown a glimpse into future Army thinking. Later in 1985 he told his audience at the AUSA *Landpower Forum*: *"AirLand Battle Doctrine envisages a very fluid and deep battlefield, which acknowledges fairly deep penetrations into western territory by pact forces. It is also possible that there will be some penetrations into East Germany by friendly forces."*[271] The latter idea, having penetrations into enemy territory, differed from *Active Defense* thinking – *"maneuver"* should as well be part of *AirLand Battle*, attacking the enemy as well in *"depth"* with units on the ground. To benefit thereof, "*chances*", which emerged on the battlefield, had to be exploited, as written in the 1982 FM *100-5* edition:

> *"This requires that the entire force thoroughly understand the commander's intent. […] They must develop opportunities that the force as a whole can exploit. Large unit commanders […] must also be able to shift their main effort quickly to take advantage of enemy weaknesses that their subordinates discover or create. […] Destruction of the opposing force is achieved by throwing the enemy off balance with powerful initial blows from unexpected directions and then following up rapidly to prevent his recovery."*[272]

The first part of this statement reflects *"Auftragstaktik"* partially, as the intention of the commanding officer or general as interpreted in the United States Army. Army operations had to be quick, unpredictable, and disorienting. Improvisation, initiative and aggressiveness were desirable.[273] Starry was quoted speaking at an *American Defense Preparedness Association* (ADPA) meeting in 1981: *"The purpose of this whole operation is to wrest the initiative from the enemy. You cannot fight successfully and win if you don't seize the initiative at some point."*[274] Similarly the *Fundamentals of AirLand Battle Doctrine* in the 1986 edition:

> *"The object of all operations is to impose our will upon the enemy – to achieve our purposes. To do this we must throw the enemy off balance with a powerful blow from an*

[270] Otis, Glenn K.: Force for the Nineties, Remarks by General Glenn K. Otis, Mark Clark / Mascarenhas De Morales Guest Speaker Program, Brazil, 14-18 September 1981, AHEC, Glenn K. Otis Speeches, 1981-1984, Box 1, p. 47.
[271] Otis, Glenn K.: Outline of Proposed CINCUSAREUR Remarks, AUSA Landpower Forum, Marriott Hotel, Rosslyn, 8 August 1985, AHEC, Glenn K. Otis Speeches, 1984-1985, Box 2, p. 6f.
[272] FM 100-5, Operations, 1982, p. 2-1. The last sentence can as well be found in United States Army Training and Doctrine Command: AirLand Battle Booklet, Office, Chief of Public Affairs, HQ TRADOC, Fort Monroe, Virginia, 1984, p. 2.
[273] The AirLand Battle and Corps 86, p. 68.
[274] Starry, Donn A.: Remarks by General Donn A. Starry, APDA Meeting, Ft Knox, Kentucky, 23 September 1981, AHEC, Donn A. Starry Collection, Speeches, Books VI to X, 1981 to 1983, Box 36, Folder 2, p. 22.

unexpected direction, follow up rapidly to prevent his recovery and continue[275] *operations aggressively to achieve the higher commander's goals."*[276]

Terms such as *"balance"* and *"will*" let a boxing fight take place in front of the inner eye, in which the enemy would be brought off *"balance"* by targeted *"blows"* and then beaten unconsciously. Here too the influence of Clausewitz was evident, as it was he who proposed to attack or at least, affect *"Schwerpunkte"* to bring the enemy off *"balance"*. On the one hand, the doctrine showed the image of chaos on the battlefield, and yet, on the other hand, the military wanted to regulate it through *"synchronization"*:

"Synchronization includes but is not limited to the actual concentration of forces and fires at the point of decision. Some of the activities which must be synchronized in an operation – interdiction with maneuver, for example, or the shifting of reserves with the rearrangement of air defense – must occur before the decisive moment, and may take place at locations far distant from each other."[277]

"Synchronization" was therefore a topic in military publications as well, here Lieutenant Colonel Donald L. Mercer, *Assistant Army Attaché* at *Moscow*, in the May edition of *Military Review* in 1984: *"By synchronizing the attack means to strike at specified points and times, a synergistic effect can be obtained. That is to say the results of such an attack will be far more catastrophic than separate attacks on the same elements over a longer period of time."*[278] Thus, the multiplication of all attacks should have a devastating *"effect"* on the enemy. Bronfeld argues that the new weapons systems, which were based on still emerging technologies, would have enabled the *"synchronization"* of both the engagement of the follow-on echelons and the defense against the first *echelon*.[279]

The role of technology

The said Soviet *echelons* should be attacked by artillery and fighter planes in the *"depth"* of the area. Charles J. Dick wrote in *Military Review* in September 1985: *"Each will seek to disrupt the enemy and force him onto the defensive in a disadvantageous position. This will*

[275] Hereto the so-called OODA *loop* (*observe, orient, decide, act*) or *Boyd Cycle* has to be named, proposed by *Air Force Colonel* John Boyd in 1976. This approach should help to guide reactions up to the strategic level. Cf. Boyd, John R.: Destruction and Creation, United States Army Command and General Staff College, September 3, 1976.
[276] FM 100-5, Operations, 1986, p. 14.
[277] FM Ibid. p. 17.
[278] Mercer, Donald L.: Targeting Soviet Forces, in: Military Review, Mai 1984, P. 23-38, here p. 24.
[279] Bronfeld, Saul: Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army, in: The Journal of Military History, Volume 71 No.2, April 2007, p. 465-498, here p. 494.

be done at first by air and long-range artillery strikes and the use of forward and raiding detachments, and then by the attacks of advanced guards."[280] Dick here as well counted *raiding forces* as part of the effort to disrupt the enemy's advance. Indeed, Warsaw pact planners even counted on the *101st Airborne Division* as raiding force to attack in-depth with helicopters and its ATGM-equipped infantry units.[281] But mainly *"firepower"* was imagined to stop the enemy. To facilitate this *Way of Warfare*, new, undeveloped weapons systems should be deployed. A network of sensors and weapons systems such as the already mentioned JSTARS, *AH-64*, *Pershing II*, MLRS, ATACMS, *Copperhead Projectile* and TACFIRE (*Tactical Fire Direction*), should locate the second and third *wave* of the Soviet armies as well as the OMGs and destroy them before they could reach the FLOT.[282] This way the recourse to technical means to destroy the enemy *"mass"* is obvious regarding *AirLand Battle*, especially the faith towards weapons which would be mature only in the decades to come. The 1982 edition of the *Field Manual 100-5,* for example, described a new *Fire Support System* which would coordinate the fire of the different weapons systems: *"The weapons of the system are mortars, guns, cannons, rockets, guided missiles and tactical fighter aircraft."*[283] The mentioned new weapons were not named explicitly but they occupied the professional audience. In August 1984 the commanding general, *2d Armored Division* described the implications of the microchip in *Military Review*:

> *"The chip is the technological key to the new doctrine – the counterpart to the blitzkrieg's use of the gasoline engine. […] The chip is also the basic technology for turning 'dumb' munitions into precision-guided munitions and for developing advanced night vision devices that will allow us to fight at night almost as we do in the daytime."*[284]

The technological foundations were therewith acknowledged already: modern sensors as well as *precise* weapons systems were based on electronics. Tanks, aircraft, helicopters were the same basic system as 20 years before, but now – thanks to the beginning digitization – those weapons became much more *effective*. The *Manual* from 1982 described further how the enemy in a future conflict would deploy *"probably […] large quantities of high-quality*

[280] Dick, Charles J.: Soviet Operational Concepts, in: Military Review, September 1985, p. 29-45, here p. 33.
[281] Lautsch, Kriegsschauplatz Deutschland, p. 85.
[282] Mahnken, Technology, p. 128f.
[283] FM 100-5, Operations, 1982, p. 7-10.
[284] Woodmansee Jr., John W.: Blitzkrieg and the AirLand Battle, in: Military Review, August 1984, p. 21-39, here p. 27.

weapons systems whose range and lethality equal or exceed our own"[285], which as well propagated the image of the superior enemy. Most interesting is the contrast shown towards the *"weaknesses"* of the Warsaw Pact, which otherwise was imagined as being technologically inferior, as described by Skinner. But the FM 100-5 1986 edition as well spoke of *"modern tank, motorized, and airborne forces like the Warsaw Pact armies"*.[286] In this case either different assessments were far apart or the intention was to promote something other to the outside world or public to support the acquisition of all the aforementioned weapons systems.

"Maneuver" or "firepower"?

It seems therefore appropriate to discuss further the two terms *"maneuver"* and *"firepower"* and their respective meanings in *AirLand Battle*. Both terms were either emphasized or paraphrased in the official FMs. In a chapter named *Conduct of Operations* the *Manual* from 1982 did explain *AirLand Battle* further:

> *"AirLand Battle doctrine takes a nonlinear view of battle. It enlarges the battlefield area, stressing unified air and ground operations throughout the theater. […] It recognizes the nonquantifiable elements of combat power, especially maneuver which is as important as firepower."*[287]

In comparison the 1986 edition about the terms *"maneuver"* and *"firepower"*:

> *"Maneuver is the movement of forces in relation to the enemy to secure or retain positional advantage. It is the dynamic element of combat – the means of concentrating forces at the critical point to achieve the surprise, psychological shock, physical momentum, and moral dominance which enable smaller forces to defeat larger ones. […] Firepower provides the destructive force essential to defeating the enemy's ability and will to fight."*[288]

"Maneuver" was hereby the geographical repositioning of units and/or *"firepower"* to bring the enemy off *"balance"* psychically as well. Nevertheless *"firepower"* seems to be predominant in the imagination of a skirmish and shall lead to the physical destruction of the enemy in the end: *"Firepower exploits maneuver by neutralizing the enemy's tactical forces*

[285] FM 100-5, Operations, 1982, p. 1-2.
[286] FM 100-5, Operations, 1986, p. 2.
[287] FM 100-5, Operations, 1982, p. 7-1.
[288] FM 100-5, Operations, 1986, p. 12.

and destroying his ability and will to fight".[289] Kretchik describes how the discourse on warfare used the terms *"maneuver"* and *"firepower"* differently in the FM *100-5* editions: *"The 1976 doctrine had promoted firepower while the 1982 doctrine upheld maneuver. The 1986 version aimed to balance the two by advocating that maneuver and firepower were essential components of warfare regardless of attacking or defending."*[290] Authors in military publications as well debated these central terms. Captain Anthony M. Coroalles wrote in 1982: *"At this [operational] level of war, a maneuver may solely consist of the movement of combat power to a location which, when occupied, will make an enemy's position untenable. "*[291] Coroalles hereby suggested as well more a geographical idea. An article contained in the March edition of *Military Review* in 1983 by Lieutenant Commander James T. Westwood, a retired United States Navy officer, about *"maneuver"*: *"Recognition and exploitation of enemy vulnerabilities subsume under the whole concept of maneuver warfare. Maneuver is not limited merely to repositioning military forces […] It can defeat a superior enemy country or enemy military force."*[292] There one can see now an interpretation of *"maneuver"* even deviating from the official regulations, contradictory to the general interpretation of the United States Army. Westwood wrote about a mental rather than physical type of *"maneuver"*. *Deep Battle* as well was described as basic element of the concept in the *Field Manual* in 1982:

> *"Combat will extend throughout the operational area, and deep actions will influence the outcome of the battle between committed forces. Improved sensors, long-range weapons, and a responsive intelligence distribution system can be used to great advantage in the deep battle."*[293]

Further:

> *"The deep battle component of the AirLand Battle doctrine supports the commander's basic scheme of maneuver by disrupting enemy forces in depth. […] Deep battle prevents the enemy from massing and creates windows of opportunity for offensive actions that*

[289] FM 100-5, Operations, 1986, p. 12.
[290] Kretchik, U.S. Army Doctrine, p. 212.
[291] Coroalles, Implementing a Maneuver Style of War, p. 20-21.
[292] Westwood, James T.: Maneuver: A Broadened Concept, in: Military Review, March 1983, p. 15-19, here p. 18.
[293] FM 100-5, Operations, 1982, p. 7-2.

allow us to defeat him in detail. […] Our primary strike assets for deep attack are air and artillery interdiction."[294]

Deep Battle in the *AirLand Battle* indeed officially meant *"firepower"*: fires from the air and ground (artillery). The disruption of enemy forces in the *"depth"* of the battlefield was as well discussed in the military community: Colonel Victor T. Letonoff and Lieutenant Colonel Edward H. Robertson, *Office of the Deputy Chief of Staff of the Army [Doctrine]* (ODCSDOC), *Headquarters*, TRADOC, wrote in a 1983 paper:

"The need for fighting close in and deep in the AirLand Battle emerges from the nature of our potential enemy – his doctrine and his numerically superior force. What is important is that superiority in numbers permits him to keep a significant portion of his force out of the fight with freedom to commit it either to overwhelm or to bypass the friendly force. The existence of this force gives the enemy a strong grip on the initiative which U.S. forces need to wrest from him, then retain in order to win."[295]

And finally a quote from the *AirLand Booklet* published in 1984: *"The battle in the depth should delay, disrupt, or destroy the enemy's uncommitted forces and isolate his committed forces so that they may be destroyed."*[296] Colonel Wass de Czege wrote similarly in a 1983 *United States Army War College* (USAWC) paper: *"The aim of the deep battle is to prevent the enemy from massing, and to create opportunities for offensive action – 'windows of opportunity' – that allow us to defeat him in detail."*[297] Not only should the enemy be prevented from massing, he was to be forced to deviate from his plans. This idea would also be discussed in military publications, for example by Colonel William G. Hanne in *Military Review* in June 1983:

"*The deep attack is supposed to create a situation whereby the enemy commander is forced to deviate from his plan and is confronted with changes that occur so rapidly that he is unable to keep up with it. He would thus lose the initiative and arrive at the point chosen for the decisive collapsing blow.*"[298]

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[294] FM 100-5, Operations, 1982, p. 7-13.
[295] Letonoff, Victor T. / Robertson, Edward H.: Deep Attack, in: United States Army War College: AirLand Battle Doctrine, Art of War Colloquium, US Army War College, June 1983.
[296] United States Army Training and Doctrine Command: AirLand Battle Booklet, Office, Chief of Public Affairs, HQ TRADOC, Fort Monroe, Virginia, 1984, p. 4.
[297] Wass de Czege, Huba: The U.S. Army's doctrinal reforms, in: United States Army War College: AirLand Battle Doctrine, Art of War Colloquium, US Army War College, June 1983.
[298] Hanne, William G.: Doctrine, not Dogma, in: Military Review, June 1983, p. 11-25, here Sp 16.

So the enemy should be forced to change or give up his plans through *"maneuver"* and *"firepower"* into the *"depth"*; he would lose the initiative therewith. Another quote from the *AirLand Booklet*: *"Army units will fight in all types of operations to preserve and to exploit the initiative. They will attack the enemy in depth with fire and maneuver and synchronize all efforts to attain the objective."*[299] *"Depth"* was, as described in the FMs, also understood in a temporal fashion as shown here by Mercer in the *Military Review*: *"The AirLand Battle will be fought in time and space throughout the depth of enemy territory."*[300] In opposition to the *Active Defense* not only the geographical distance should be the measurement parameter for responsibilities on the different command levels but more so the time which enemy units needed to reach the frontlines. The *Brigade* was responsible for battling the enemy who stood about 12 hours away from the FLOT; the *Division* for 24 and *Corps* for 72 hours. Here two things have to be mentioned. On one hand, while the discussions in the journals and in papers described the *Deep Battle* as being fought by *"maneuver"* and *"firepower"*, the official 1982 *Manual* spoke mainly about fires. And although Starry was at least credited with bringing back *"maneuver"* after *Active Defense*, in the end, *AirLand Battle* depended on the *"firepower"* to fight the *Deep Battle/Attack*. Then of course, the introduction of time responsibilities (12, 24, 36 hours and so on) clearly suggested another type of *linearity* and contradicts the *non-linearity* propagated with the concept.

Army and Air Force

To indeed get enough *"firepower"* into the *"depth"* of the battlefield, the Air Force had to deliver much of these fires. As the *terminus AirLand Battle* let assume, the concept indeed depended on cooperation by the Air Force. Starry stated in 1981:

> *"This is an Air-Land Battle. You cannot fight the interdiction battle without Air Power. However, Air Power can't fight the close in battle alone nor can Air Power fight the deep battle alone. Although the deeper it goes, the more it is a Air Power battle as opposed to an Air-Land Battle."*[301]

The authors of an Army-Air Fore *Agreement on Apportionment and Allocation of OAS* (*Offensive Air Support*) in 1981 stated similarly:

[299] United States Army Training and Doctrine Command: AirLand Battle Booklet, Office, Chief of Public Affairs, HQ TRADOC, Fort Monroe, Virginia, 1984, p. 2.
[300] Mercer, Donald L.: Targeting Soviet Forces, in: Military Review, Mai 1984, p. 23-38, here p. 24.
[301] Starry, Donn A.: Remarks by General Donn A. Starry, APDA Meeting, Ft Knox, Kentucky, 23 September 1981, AHEC, Donn A. Starry Collection, Speeches, Books VI to X, 1981 to 1983, Box 36, Folder 2, p. 16.

> *"Close air support missions require detailed control to integrate them with the fire and/or movement of friendly forces and must therefore be responsive to direction by the land force at all stages of execution. On the other hand, BAI missions once requested by the land commander are conducted entirely under Air Force direction, though fire coordination arrangements are necessary if the targets are short of the Fire Support Coordination Line (FSCL)."*[302]

So in *"depth"*, the Air Force officially should be in the lead regarding the direction of air strikes, but discussions would follow about which service was responsible for what type of strike and so on. TAC commanding general Wilbur L. Creech voiced his support for *AirLand Battle* in 1981 in front of an AUSA audience: *"I want to assure each person here that the Air Force has a very strong commitment – very strong commitment – to the Air-Land concept, the Air-Land Battle, the Air-Land Interface."*[303] Creech therewith at least confirmed that there would be some sort of a *joint* fight. And further speaking at an *Air Force Association* (AFA) event:

> *"I agree totally with my Army colleagues – we are in absolute agreement – that we, in our concepts and doctrine, must address the extended battlefield. There is a propensity in the part of some to view the enemy in the narrow context of moving tanks near the FEBA [Forward Edge of the Battle Area]* [304]*. But the second echelon must also get lots of our attention because if the enemy is allowed to arrive at the FEBA unimpeded, history proves that we will be overwhelmed."*[305]

The history which Creech spoke about certainly meant on one side the Arab-Israeli War in 1973, but as well the imagination shown earlier, the *"magnetic steamroller"*. The FM *100-5* from 1982 indicated similarly the official stance: *"The Air Force is an equal partner in the air-land battle. It supports the battle with counterair and air interdiction operations […] Air interdiction operations destroy, isolate, neutralize, or delay the enemy's military potential before it can influence friendly operations."*[306] Hence it is clear how fundamental the role was which the Air Force had to play:

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[302] Headquarters, Tactical Air Command: USAF and USA Agreement on Apportionment and Allocation of OAS, July 10, 1981, AFHRA, 168.7339-394, p. 3.
[303] Creech, Wilbur L.: General Creech's Remarks at AUSA, 19 -21 Oct 1981, AFHRA, 168.7339-745, p. 9.
[304] FEBA includes the whole operational area of blue forces, but without the *Covering Force*.
[305] Creech, Remarks at AFA, Los Angeles, p. 6.
[306] FM 100-5, Operations, 1982, p. 7-6 - 7-7.

> *"BAI [Battlefield Air Interdiction] is air interdiction against hostile surface targets nominated by the ground commander and in direct support of ground operations. It is the primary means of fighting the deep battle at extended ranges. […] It also destroys, delays, or disrupts follow-on enemy units before they can encounter the close battle."*[307]

While Lewis[308] argues that, primarily (*primary means*) the Air Force should conduct the *Deep Battle*, attack the second and third enemy *waves* as the Army stopped the first *wave*, it seems rather that the Army had enough means at its hands to facilitate the *Deep Attack* on enemy forces, namely the 1982 FM *100-5* missiles mentioned above and attack helicopters.[309] The *Manual* from 1986 then stated about *Tactical Air*:

> *"While the urgency of enemy actions may require direct attacks against forces in contact, air forces are normally more efficiently used to attack in depth those targets whose destruction, disruption, or delay will deny the enemy the time and space to employ forces effectively."*[310]

As the 1986 edition stressed the importance of fires delivered by aircraft, it also incorporated Army missiles and attack helicopters that would be suited to *"Conduct raids in enemy-held territory*" or *"Attack the flanks and rear of attacking or withdrawing enemy formations*".[311] Thus, the question is how the *AirLand Battle* concept was incorporated into the official Air Force documents. The AFM *1-1* from 1984 sketched how the enemy's *Warfighting Potential* could be attacked:

> *"Attacking an enemy's warfighting potential includes actions against the will of an enemy and actions to deny him the time and space to employ his forces effectively. This involves coordinated attacks against an enemy's warfighting potential not yet engaged and attacks against an enemy's forces in contact."*[312]

It is interesting to see a certain similarity to the speech of the Army as it spoke about the enemy's *"will*". Furthermore, the AFM *1-1* from 1984 recited elements from the Army's *AirLand Battle Concept*:

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[307] FM 100-5, Operations, 1982, p. 7-11.
[308] Lewis, The American Culture of War, p. 302.
[309] FM 100-5, Operations, 1982, p. 7-6.
[310] FM 100-5, Operations, 1986, p. 47-48.
[311] Ibid. p. 43.
[312] United States Air Force: Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force, March 1984, here p. 2-13.

> *"[…] an air commander must exploit the devastating firepower of airpower to disrupt that momentum and place an enemy's surface forces at risk. To do that, an air commander must attack not only those enemy forces in contact, but enemy forces in reserve or rear echelons as well."*[313]

The attacking of enemy forces in the "*depth*" of the area was at that time described as "*as well*" and not (yet) as a primary mission. And the *"firepower"* of Airpower is described as being *"devastating"*. In a third chapter the AFM *1-1* from 1984 describes the *Air Force Missions*. Apart from specific aerial tasks such as *Air Superiority* there were some especially to support ground troops, as well: *"Air Interdiction (AI) objectives are to delay, disrupt, divert, or destroy an enemy's military potential before it can be brought to bear effectively against friendly forces."*[314] That Air Force mission in the *Deep Battle* provoked discussions which can be found in military publications related to both services. The connectedness of operations on the ground and in the air were described by General William R. Richardson, commanding general TRADOC in the *Military Review*, March edition 1986:

> *"The modern battlefield demands close and continuous Army-Air Force coordination. […] The new edition [of the FM 100-5] recognizes that future campaigns and major operations will be joint undertakings with mutually supporting air and ground functions."*[315]

A more critical perspective on *AirLand Battle* was shown by Thomas A. Cardwell III, *Deputy Commander for Operations, 323rd Flying Training Wing*, in the *Air University Review,* March-April 1983:

> *"The Air Force view of the extended battlefield is from a theater perspective. Since tactical air assets are limited and must be responsive theaterwide, the planning and execution of TACAIR [TACtical AIR]*[316] *is accomplished at the air and land component interface – an echelon above the corps level. […] Only when air assets are controlled by a single air component commander can they be applied to the extended battlefield at the*

[313] AFM 1-1, 1984, p. 2-13.
[314] Ibid. p. 4-8. This paragraph is also incorporated written exactly the same way in the FM 100-5 from 1982 (top) which suggests at least some efforts towards cooperation (*Jointness*).
[315] Richardson, William R.: FM 100-5 – The AirLand Battle in 1986, in: Military Review, March 1986, p. 4-11, here p. 7.
[316] Stands as well for *Tactical Air(craft)* as for *Tactical Air Forces* and comprises the Air Forces units directly supporting ground operations in contrast to those being deployed on the strategic level. Until 1992 the *US Air Force* had the *Tactical Air Command* beneath the *Strategic Air Command* and the *Air Defense Command*.

time and in the amount needed to affect the outcome of the battle in support of the land commander."[317]

These last paragraphs suggest a certain restraint regarding the supposition Air Force means under the command of a ground force commander. Rather explicitly, the author suggests that only air assets coordinated by an airman can have enough "*effect*" on the enemy, and the author emphasizes how the Air Force has another perspective, a "*higher*" point of view onto the battlefield. Here it ought to be acknowledged that Warden (later the promoter of the *System-of-Systems-Analysis* and *Effects-Based Operations*) published as early as in 1983, being *Assistant Deputy Commander for Operations, 347th Tactical Fighter Wing*, and stated:

"Air forces may attack the enemy hundreds or even thousands of miles ahead of surface forces. Theoretically, air forces can destroy enemy ground forces, but with great certainty they can slow and even stop advancement. […] This significant capability must not be ignored or denied. It may be the key to victory."[318]

Hence Warden was indeed supporting the idea of *AirLand Battle* and showcased at the same time the self-confidence of a fighter pilot, displaying *Airpower* as the *"key"* to the victory that the Army had as a constraint in its thinking. Warden afterwards described in a monograph about modern *Airpower* strategy how future technologies such as PGMs and GPS could facilitate beating an enemy on the strategic level without having to resort to massive airstrikes.[319] A more critical voice came with Colonel Trevor N. Dupuy, former *President* and *Executive Director* of the *Historical Evaluation and Research Organization* (HERO) in the *Air Force Magazine* edition in April 1983, a retired Army officer: *"All previous versions of attacks into an enemy's rear area – whether by long-range artillery or by some version of long-range penetration – have historically had only limited success."*[320] Dupuy not only questioned the success of attacks into the *"depth"*, but he criticized the *idée de manœuvre* of *AirLand Battle* altogether too, disputing the capabilities of the weapons systems which were still to be introduced. He as well questioned if there would be NATO *Air Superiority* at all.[321] Dupuy as well called into question if Army-Air Force coordination would

[317] Cardwell III, Thomas A.: Extending the Battlefield - airman's point of view, in: Air University Review, March-April 1983.
[318] Warden III, John A.: Planning to Win, in: Air University Review, March-April 1983.
[319] Cf. Van Creveld, The Age of Airpower, here p. 241f and Warden III, John A.: The Air Campaign, Washington, 1988.
[320] Dupuy, Trevor N.: Strategy for Victory or Defeat?, in: Air Force Magazine, Vol. 66, No. 4, April 1983, p. 80-84.
[321] Ibid.

really work, Cardwell in the April edition of *Military Review* in 1984 similarly wrote about the problems arising with the cooperation between Air Force and Army: *"The Air Force controls assets in the area where the Army wants to control assets. […] The Army's extended battlefield, with its corps orientation, appears to be incompatible with the Air Force concept of the theater control of air assets."*[322] Here the author showed a glimpse of the almost institutional incompatibility between Air Force and Army, and he emphasized as well the constrained perspective of the ground commander. Furthermore, Major James A. Machos, *Joint Air Operations Staff Officer* with ALFA, criticized the idea of an Army commander having fighter planes at his command in the *Air University Review* May-June edition in 1984: *"However, to allow each corps commander the luxury of 'calling his own shots' with air interdiction would fragment the theater air interdiction effort. The theater perspective would be replaced by several narrow, possibly competing, corps perspectives."*[323] The FM *100-5* 1982 planned to have Air Force and even Naval liaison teams to coordinate the fires from aircraft and ships.[324] Nonetheless, the author of a 1979 study had argued similarly: *"I believe TAC should provide strong direction to TRADOC concerning the unrealities of addressing interdiction requirements, be it BAI, BI o AI, in terms of anything lower than Army Group in Central Europe. The two primary reasons are that the WP [Warsaw Pact] Commander, unfortunately, will not line up his boundaries of Divs and Armies with NATO's so that each of our Division Commanders can plan and execute his own tidy little war, and our sensors, even in 1986+, still will not tell us what the enemy plan is."*[325] At least parts of the Air Force therefore seemed to be uncomfortable that within the scope of the *AirLand Battle* concept fighter planes were being treated as flying artillery systems which thereby would be more vulnerable to ground-based air defenses; let alone the planes would be like subordinate to the ground battle.[326] The 1984 AFM *1-1* as well stated that *"battlefield air interdiction requires joint coordination at the component level during planning, but once planned, battlefield air interdiction is controlled and executed by the air commander as an integral part of a total air interdiction campaign"*[327], reiterating the Air Force stance that aircraft had

[322] Cardwell III, Thomas A.: One Step Beyond – AirLand Battle, Doctrine, not Dogma, in: Military Review, April 1984, p. 45-53, here p. 48.
[323] Machos, James A.: Tacair Support for Airland Battle, in: Air University Review, May-June 1984.
[324] FM 100-5, Operations, 1982, p. 7-10.
[325] Mackellar: Ft. Sill Mtg: 16, Oct 79, Battlefield Interdiction (BI), SAG, 19 October 1979, AHEC, Donn A. Starry Collection, Correspondence Files, October 1979, [Part 2 of 3] to January 1980, Box 19, Folder 1, p. 2.
[326] Tomes, US Defense Strategy, p. 114.
[327] AFM 1-1, 1984, p. 3-4.

to be controlled by Airmen when supporting the *Deep Battle*. James C. Slife seemingly rightly writes how the concepts underpinning the *AirLand Battle* doctrine seemed to be troublesome to many airmen who saw it as an Army attempt to gain increased control over tactical airpower.[328]

The emergence of the "Joint idea"

Within the scope of the concept *Joint Suppression of Enemy Air Defense* (J-SEAD), among others, emerged that the Air Force wanted to retain control of *Deep Strikes*, but the Army would prioritize the attacks on follow-on Soviet forces. Some years later the Army would take hold of planning authority for CAS at least partially, but not for BAI.[329] The Air Force accepted *AirLand Battle* non-officially and cooperated with the Army within the scope of the already mentioned working/study groups, though the concept *AirLand Battle* did not appear in official Air Force documents.[330] At the same time *AirLand Battle* was further criticized openly as shown here by Major Jon S. Powell, *Plans and Requirements Officer* at the *Defense Mapping Agency,* in the *Air University Review* May-June edition in 1985:

> *"AirLand Battle ignores the most serious threats to NATO's forward-deployed defenses – operational maneuver groups and air assault brigades. NATO's greatest danger will not be mythical second echelons far from the main battle. Instead, it will be these quick-striking units driving through our forward defenses and leading major enemy forces."*[331]

Here even the basic ideas regarding *AirLand Battle* were questioned. The Army imagined a battle fought through great distances, but Powell states that this battle would possibly not take place at all. But with Thomas A. Cardwell III again an Air Force officer wrote in *Military Review* September 1985, more conciliatory: *"Now, to make the AirLand Battle doctrine work, we must put aside our service bias and look at the doctrine from a joint perspective. Granted this is easier said than done, but only by viewing the battle from this joint perspective can we ever hope to fight and win."*[332] And James P. Coyne, *Senior Editor* of the *Air Force Magazine*,

[328] Slife, James C.: „Creech Blue": General Bill Chreech and the Reformation of the Tactical Air Forces, 1978-1984, A Thesis presented to the Faculty of the School of Advanced Airpower Studies for Completion of Graduate Requirements, School of Advanced Airpower Studies, Air University, Maxwell Air Force Base, Alabama, June 2002, AFHRA, 168.7339-1816, p. 34.
[329] Ibid. P. 114f.
[330] Lewis, The American Culture of War, p. 302.
[331] Powell, Jon S.: Airland Battle: The Wrong Doctrine for The Wrong Reason, in: Air University Review, May-June 1985.
[332] Cardwell III, Thomas A.: AirLand Battle Revisited, in: Military Review, September 1985, p. 4-13, here p. 10.

Colonel as well as retired fighter pilot showed glimpses of further possible Air Force-Army cooperation in the October edition in 1985:

> *"In a theoretical scenario, the Air Battle Captain*[333] *might preside over a battlefield where an Army OH-58 helicopter would laser-designate a target for a missile attack by A-10s, followed by attack helicopters mopping up, after which troop-carrying choppers would deliver forces to secure the area. He would run the operation. USAF fighter pilots who have flown under this system have no problem with it."*[334]

Coyne hereby stated that he would not have had problems being commanded by a ground commander – the *Air-Battle Captain* could, in his eyes, even be an Army officer. Army General Fred K. Mahaffey, CINCREDCOM (*Commander-in-Chief, Readiness Command*)[335] was then quoted in the April edition of the *Air Force Magazine* in 1986 as follows:

> *"Air interdiction missions can no longer operate freely forward of some clear, straight fire-coordination line. The battlefield will be nonlinear and full of enemy and friendly pockets. Battlefield air interdiction may look a lot like close air support of a deep-attacking ground force."*[336]

Mahaffey hereby propagated the image shown in the FM *100-5* of a *non-linear* battlefield and he saw CAS as well as BAI in a more similar way and with a more similar connotation to the ground war. While the Army and Air Force absolutely saw the necessity of coordination regarding the *Deep Battle*, Mahaffey at the same time hints at the difficulties which the coordination of *"firepower"* and *"maneuver"* (e.g. *Airmobile* units) would pose. In an article about *Ground Attack* Jeffrey P. Rhodes, *Defense Editor* of the *Air Force Magazine* described in the November edition in 1986 *Battlefield Air Interdiction*:

> *"His [the pilots] thing will include flying as deep as 800 kilometers behind the Forward Edge of the Battle Area (FEBA) through radars, SAM, and enemy fighters to attack*

[333] The Air Battle Captain coordinates all air units as well as fires from the air and ground within the scope of the concept *Joint Air Attack Team*.
[334] Coyne, James P.: Coordinating the Air-Ground Battle, in: Air Force Magazine, October 1985, p. 64-70, here p. 69.
[335] REDCOM should prepare air as well as ground forces to facilitate quick interventions and therefore controlled parts of TAC as well as Army units. Since 1987 *United States Special Operations Command* (USSOCOM).
[336] Cited after Correll, John T.: Tactical Warfare High and Low, in: Air Force Magazine, April 1986, p. 48-57, here p. 53.

targets that do not have a near-term effect on the battle, such as airfields, or critical chokepoints, such as bridges and POL (petroleum, oil, and lubricants) storage areas."[337]

BAI therefore covered more than the 300 kilometers for the *Corps* as described by the Army and should rather not go against targets which are *decisive* for the immediate battle (whereas Rhodes showed a more Airpower-oriented perspective). While Rhodes in his article further described the different aircraft types and weapons necessary to conduct BAI, his statements as well show how the distances and responsibilities in the *Deep Battle* were differently looked at by Army and Air Force personnel. Even AFM *1-1* 1984 did not define exactly how far BAI should reach into enemy territory. Edgar Ulsamer, *Senior Editor* at the *Air Force Magazine*, described his vision of a 1990s battlefield in the March edition in 1987:

"Among the central conclusions to emerge from the TAC/TRADOC analysis is that the battlefield of the 1990s will be dominated by Soviet attack strategies centered on fast-moving, around-the-clock, multiechelon operations linked to coordinated rear actions designed to disrupt US offensive and defensive moves. As a consequence, the separation between close air support (CAS) and battlefield air interdiction (BAI) will become blurred."[338]

Ulsamer here argued similarly as General Mahaffey: CAS and BAI would most certainly overlap somehow, and therefore the coordination problem would persist as well. House concludes that despite the best intentions on both sides the BAI issue was not resolved.[339] Consequence of *AirLand Battle* in the discussion in the Air Force seems to be mainly the fact that, with the chaos on the battlefield as imagined by the Army BAI und CAS became blurred more and more. Similarly, as some authors in the journals suggested, there remained questions how *effective* United States and NATO airstrikes in the *Deep Battle* would in reality be against the Soviet SAM network and enemy *Air Superiority* fighters.

One means to overcome the air defenses would certainly be new standoff weapons with *precision guidance*. The *Commission on Integrated Long-Term Strategy* pointed out as well in 1988 that PGM in future could substitute tactical nuclear weapons in their spectrum of

[337] Rhodes, Jeffrey P.: Improving the Odds In Ground Attack, in: Air Force Magazine, November 1986, p. 48-52, here p. 49f.
[338] Ulsamer, Edgar: New Roadmap for AirLand Battle, in: Air Force Magazine, March 1987, p. 108-113, here p. 108.
[339] House, Combined Arms Warfare, p. 255f.

operations, which comprised (at least in the heads of some planners) even the deployment in the *Deep Battle*.[340] Starry recounted in an interview in 1995:

> *"That was the genesis of the deep attack part of the AirLand Battle. It was an attempt to raise the nuclear threshold, in Europe particularly but elsewhere as well, by substituting for what we had originally thought we needed nuclear weapons for, conventional weapons, with accurate surveillance and target acquisition systems, accurate delivery systems, and accurate fusing and sensing systems aboard the weapons themselves, in many cases."*[341]

As mentioned earlier, technology was thought to be one of the pillars on which *AirLand Battle* rested: new and more *precise* weapons systems, accurate thanks to the beginning digital age, and networked to locate and destroy as many targets as possible. In 1988 Major Robert M. Chapman, *Chief, Air Warfare and Simulation Branch* at the *Air Command and Staff College*, wrote in the *Airpower Journal* about the role of technology: *"The battlefield was never a safe place, but technology has increased the danger. […] One advantage of precision guidance is that fewer weapons are needed to destroy a target."*[342] Hence the new *smart bombs*[343] would increase destructive power. The PGM's advantages had been discussed as well by James P. Coyne in the October edition of the *Air Force Magazine* in 1985:

> *"Key to the employment of these weapons on the modern battlefield is minimum exposure time for the aircraft employing them. In the Vietnam era, ground support aircraft operated in flights of four, staying over the target area for periods of several minutes to deliver ordnance. This would be suicide today because of the deadly ground-to-air defenses. […] Weapons coming into the inventory in the future will enable pilots to reduce exposure time even more, perhaps to as little as five seconds."*[344]

According to Coyne, the technological possibilities would facilitate the more *precise* destruction of targets in the future and enable pilots to stay out of the dangerous SAM umbrellas.

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[340] Tomes, US Defense Strategy, p. 104.

[341] Winton, Harold R.: United States Air Force Oral History Program, Interview of General Donn A. Starry, U.S. Army, Retired, Conducted by Dr. Harold R. Winton, School of Advanced Airpower Studies, Air Command and Staff College, 13 May 1995, Gettsyburg, Pennsylvania, 13 May 1995 AFHRA, K239.0512-2140, p. 10.

[342] Chapman, Robert M.: Technology, Air Power, and the Modern Theater Battlefield, in: Airpower Journal, Summer 1988.

[343] The terminus *smart* is mentioned mainly together with the *smart bombs* or other modern PGM which are able to pursuit their target after acquisition by themselves and can even distinguish their target from others.

[344] Coyne, James P.: Coordinating the Air-Ground Battle, in: Air Force Magazine, October 1985, p. 64-70, here p. 68.

Apart from the fighter plane and the rocket artillery (MLRS) the Army's attack helicopters were as well planned to be attacking into the *"depth"* in the realm of *AirLand Battle*. In 1988 Lieutenant General Crosbie E. Saint, commanding general*, III Corps* and Colonel Walter H. Yates Jr., commanding officer*, 6th Cavalry Brigade (Air Combat),* discussed the role of the *AH-64 Apache* the June, July and October editions of *Military Review*. First, the advantages in the *Close Operations* were mentioned:

> *"Attack helicopter units […] have the ability to focus combat power and influence the tempo of battle with awesome speed, flexibility and versatility. […] That is, they are not committed, to battle pending full development of the scheme of maneuver and the appropriate moment to strike at a created or recently discovered vulnerability."*[345]

Then the *Deep Operations*:

> *"It becomes clear that air maneuver with attack helicopters is the most responsive and sustainable operation available to a corps commander for influencing the deep operation."*[346]

As the attack helicopter battalions were directly subordinated to the ground commander (e.g. part of their *Corps* and *Divisions*), they could directly be put to good use without having too much coordination with the Air Force, but problems regarding the latter would most certainly have emerged, too. Nonetheless, both authors seemed to be stark supporters of the attack helicopter. Indeed, the combination of the *Apache* and its *Hellfire Missile* represented a quantum leap over the *AH-1 Cobra* with its wire-guided missiles (TOW), as *Hellfire* was a fire-and-forget-missile, not requiring the helicopter to expose himself during the time the missile flew towards its target.

While defining a new *Way of Warfare*, *AirLand Battle* mainly rested on *"firepower"* and *"maneuver"* as the defining terms in the discourse on warfare. While the enemy discourse in the late 1970s and early 1980s shaped the term *"mass"* attached to the Warsaw Pact's forces, the *Deep Battle* together with the emerging technologies should counter the masses mainly with *"firepower"*. To be mentioned as well is how *AirLand Battle* seemed to be almost entirely focused on the imagined battle against the Warsaw Pact's forces in Central Europe, leaving not only other theaters, but as well other forms of warfare out. Major General

[345] Saint, Crosbie E. / Yates Jr., Walter H.: attack helicopter operations in the airland battle: CLOSE OPERATIONS, in: Military Review, June 1988, p .2-14, here p. 4.
[346] Saint, Crosbie E. / Yates Jr., Walter H.: attack helicopter operations in the airland battle: DEEP OPERATIONS, in: Military Review, July 1988, p. 2-9, here p. 3 and 5.

Charles R. Sniffin wrote about the draft of FM *100-5*, 1982: *"The manual concentrates on operations in Central Europe to the virtual exclusion of other areas. If it is necessary to retain the emphasis on Europe, consideration should be given to adding annexes dealing with other potential operations areas."*[347] The next chapter will show how there were, nonetheless, other ideas around at the end of the 1980s.

1.8. The end of the USSR and *AirLand Battle Future*

In the course of the 1980s and more prominently in the era of Soviet President Mikhail Sergeyevich Gorbachev, the USSR passed through an incisive process of change, reaching a preliminary climax with the Fall of the Berlin Wall on November 9th in 1989 and ending with the decision of the Highest Soviet on December 26th in 1991 to dissolve the USSR.[348] Nevertheless, the United States Army was in the late 1980s still working on the concept *AirLand Battle Future (Heavy)* (ALB-F, sometimes as well ALBF) as a successor to the *AirLand Battle*. This chapter will show how especially the Army at the end of the 1980s adhered to old concepts and threat perceptions. But there will be shown that nonetheless discussions did take place on what kind of war, enemy and therefore warfare had to be expected in the near future

A new generation of warfare?

Despite the coming upheavals the United States Armed Forces felt still being threatened by the masses of mechanized Warsaw Pact forces. Obviously the looming upheavals were not being appreciated accordingly. It seemed still to be necessary to be able to protect oneself using *combined arms warfare*, despite the interventions in Grenada (1983) or Panama (1989). Therefore Army General Carl E. Vuono, *Chief of Staff of the Army* from 1987 to 1991, addressed the *Armor Conference* in 1989:

> *"In spite of the General Secretary's speech at the United Nations, the Soviets and the Warsaw pact allies remain a significant threat to the global interests and responsibilities of the United States of America. […] And threats in other parts of the world are not diminishing at all. They continue to grow in complexity. They continue to be challenging*

[347] Sniffin, Charles R.: Comments on Draft FM 100-5, 30 March 1981, AHEC, Donn A. Starry Collection, Correspondence Files, October 1980, to January 1981, Box 24, Folder 7.
[348] Cf. Haslam, Jonathan: Russia's Cold War: From the October Revolution to the Fall of the Wall, Yale, 2011.

to all of us. Some of the lesser developed countries in the world have significant conventional capabilities."[349]

Vuono saw not only the Warsaw Pact but other countries as well having developed *conventional* capabilities against which the United States Army had to be prepared to fight and win. But nonetheless, the Warsaw Pact's forces still stood out. In the March edition of *Parameters* in 1989 Lieutenant Colonel Price T. Bingham, temporarily chief of the *Current Doctrine Division* at the *Airpower Research Institute* wrote about the cooperation of Army and Air Force regarding *Interdiction*: *"The nature of Soviet capabilities (force size and emphasis on surprise, shock, initiative, coordination, and depth) makes it quite unlike any other threat we have faced in the past."*[350] *Army War College* student Allen P. Hasbrouck warned how the USSR and other regional powers would be able to counter the United States' technological advances:

"The recognition of the various uses of aerial platforms evidenced in U.S. doctrine has not been missed by our potential adversaries. In addition to the Soviet Union, various regional powers have adopted a similar air and ground operations doctrine. Therefore, multiple potential adversaries in the world present a technologically sophisticated threat committed to fully utilizing the airspace over the entire battlefield."[351]

Here the entirety of the battlefield and the airspace above it showed how the discourse on warfare developed further with *AirLand Battle Future*. Hasbrouck as well pointed to other powers being able to counter the United States' advantages. He even went further and described how *"The Soviets have recognized the dependency of modern military forces on command, control and communications and have developed a formidable capability to degrade the C3 of enemy forces."*[352] *Electronic Warfare*, e.g. *Jamming* communications, was developed extensively during the late 1970s and 1980s.[353] But other authors already argued that a new type of battlefield comprised more than only military hardware. In the October edition of *Military Review* in autumn 1989 a group of authors analyzed the *"most modern generation of war"*:

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[349] Vuono, Carl E.: General Carl E. Vuono, Chief of Staff of the Army, Address to the Armor Conference, 10 May 1989, AHEC, The Carl E. Vuono Papers, Box 14, 4th May 1989 - 31st May 1989, Speeches and Remarks, p. 3.
[350] Bingham, Price T.: Ground Maneuver and Air Interdiction in the Operational Art, in: Parameters, March 1989, p. 16-31, here p. 27f.
[351] Hasbrouck, Allen P.: Third Dimension Deep Operations - Impacts and Implications, United States Army War College, Carlisle Barracks, PA, 15 March 1990, p. 7.
[352] Hasbrouck, Third Dimension Deep Operations, p. 11f.
[353] Cf. Lautsch, Kriegsschauplatz Deutschland, p. 104.

> *"The fourth-generation battlefield is likely to include the whole of the enemy's society. […] Mass, of men or firepower, will no longer be an overwhelming factor. In fact, mass may become a disadvantage, as it will be easy to target. […] [It] is a goal of collapsing the enemy internally, rather than physically destroying him. Targets will include such things as the population's support for the war and the enemy's culture. Correct identification of enemy strategic centers of gravity will be highly important. […] Actions will occur concurrently throughout all participants' depth, including their society as a cultural, not just a physical, entity."*[354]

The concept of the *fourth-generation battlefield* (as well *fourth generation warfare*, 4GW) mentioned would signify at least from a military point of view the recurrence of *total war*.[355] The *fourth-generation battlefield* would see few differences between war and peace, as well as between military and civilian. Small, highly mobile and *high-tech* units would "*maneuver"* on this battlefield. [356] But the *fourth-generation* warfare types were very vague; many of their prescriptions (such as that "*mass"* could be a disadvantage) had been around since the days of the first atomic weapons. On the other side, the military's tendency to speak about generations has to be seen as similar to the idea of different RMAs as well. Nonetheless, this article illustrates the growing importance of the technological possibilities, which emerged as a result of the development efforts coming from *AirLand Battle* and the widespread use of computers at the same time. This statement differs remarkably from the *AirLand Battle* speech – "*mass"* is not anymore defined as an advantage – a huge quantity of materials, as it was with regard to the Warsaw Pact's forces. Neither is it a huge intensity of "*firepower"*. Quality counts more than quantity, representing a turn in the discourse on "*mass"* versus quality. And while *AirLand Battle* wanted to attack the enemy's *"balance"*, these authors go much further into the direction of effectively bringing an enemy to collapse rather with *"precision"* than with masses of "*firepower"*. The battlefield hereby gains more dimensions as foreseen by *AirLand Battle*. A TRADOC memo in 1990 stated: *"Clearly we are headed into*

[354] Lind, William S. / Nightengale, Keith M. / Schmitt, John / Sutton, Joseph S. / Wilson, G.I.: The Changing Face of War into the Fourth Generation, in: Military Review, October 1989, p. 2-11, here p. 4f.

[355] *Total war* means a war that includes as well all civilian resources and infrastructure as legitimate military targets and accepts significant civilian or other non-combatant casualties as collateral damage. The word *total* refers to the range of acceptable targets and means. In the mid-19th century, scholars began to identify *total war* as a separate class of warfare. Cf., among others, to Chickering, Roger / Förster, Stig: The shadows of total war: Europe, East Asia, and the United States, 1919-1939, Cambridge, 2003 and Förster, Stig: On the Road to Total War: The American Civil War and the German Wars of Unification, 1861-1871, Cambridge, 2002.

[356] Cf. hereby Lind, William S. / Nightengale, Keith M. / Schmitt, John / Sutton, Joseph S. / Wilson, G.I.: The Changing Face of War into the Fourth Generation, in: Military Review, October 1989, p. 2-11.

another era of non-linear warfare. […] Even on the densest battlefield, concentration of forces necessary to reach an operational objective would leave great gaps between forces and create a non-linear battlefield."[357] "*Mass"* thereby is rather a problem on the type of battlefield as described in this passage. Another paragraph looks into the future and how it would manifest subsequently:

> *"Small, highly mobile elements, composed of very intelligent soldiers armed with high-technology weapons, may range over wide areas, seeking critical targets. […] Remote, 'smart' assets with pre-programmed artificial intelligence may play a key role. […] The tactical and strategic levels will blend as the opponent's political infrastructure and civilian society become battlefield targets."*[358]

Smart belongs to the *termini* coined as well as the idea that "*mass"* could be relieved by single powerful elements. "*Mass"* or quantity would therefore be replaced by quality. In the same edition Robert A. Strange described the American dependence from "*firepower"* and technology:

> *"The American experience in warfighting led the military to rely ever more heavily on firepower rather than maneuver. By bringing to the battlefield the mechanical advantages of industrialization, we sought to increase the lethality of our weapons in order to place our opponents in the untenable position in which resistance equaled annihilation. "*[359]

This more critical vote somehow partially unmasks the concept of victory thanks to overwhelming technology in the discourse. At the same time, Strange shows how the United States Army believed in "*firepower"* more than it believed in "*maneuver"*. Likewise in the October edition of *Military Review* in 1989 Clayton R. Newell wrote: *"We are in a technological age and there is every reason to believe that technology will exert an increasing influence on planning and conducting war. The future of war, however, depends on man, not technology."*[360] That the single, personal soldier is more decisive than technology is a duly recurring element in the discourse on warfare, dating even back to the 19th century, when technological advances led to changes in military thought as well.

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[357] Wolfe, R. Roger: ALB-F: an evolving concept, MEMO TO: TRADOC Commanders and Key Staff Officers, 1 March 1990, p. 4.
[358] Lind/Nightengale/ Schmitt/Sutton/Wilson, The Changing Face of War into the Fourth Generation, here p. 6.
[359] Strange, Robert A.: Bright Promise or Broken Dream?, in: Military Review, October 1989, p. 12-21, here p. 13.
[360] Newell, Clayton R.: The Technological Future of War, in: Military Review, October 1989, p. 22-29, here p. 23.

Besides such critical voices authors in military-related publications began similarly to think about the possibility that doctrine had to be adjusted to new forms of threats. In January in 1990 for example Steve Metz, *Professor of National Security Affairs* at the *Department of Joint and Combined Operations* of the *United States Army Command and General Staff College*, discussed *AirLand Battle* and its applicability in conflicts below *conventional* war in the *Military Review*:

> *"Despite the fact that the preface to FM 100-5 indicates that AirLand Battle can be extrapolated to all conflict environments, current Army doctrine for low-intensity conflict (LIC) does not rely heavily on it, but rather stresses a somewhat different body of principles labeled 'low-intensity conflict imperatives'."*[361]

Low-Intensity Conflict

While the then still valid 1986 edition of FM *100-5* very much focused on *conventional* operations, it nonetheless paid attention to the problems of LIC, first time this series of capstone *Manuals* had done so since Vietnam. Kretchik comments: *"While the Manual, the fact that it even mentioned LIC as possible mission illustrated the growing prominence of the concept and the possibility that the lessons of Vietnam could be rethought."*[362] The earlier 1982 edition of FM *100-5* included significant adjustments to the previous *Manual* in an effort to avoid fixation upon European warfare. But out of seventeen chapters overall, that edition had devoted fewer than four pages to contingency operations (the deployment of army forces during a crisis). Despite the fact that the 1986 edition had stressed how army forces must prepare to fight a variety of operations across the spectrum of war (including LIC), *"the overwhelming amount of time spent in BCTP [Battle Command Training Program] seminars and doctrinally based training at the national training centers was devoted to mid- to high-intensity conventional combat."*[363] But the authors of the final report of the *Joint Low-Intensity Conflict Project* reminded that *"For over two decades, various conflicts short of conventional war have threatened United States global interests. This form of warfare is the most probable conflict this country will face in the foreseeable future."*[364] The report stated

[361] Metz, Steve: AirLand Battle and Counterinsurgency, in: Military Review, January 1990, p. 32-41, here p. 32f.
[362] Fitzgerald, David: Learning to forget: US Army counterinsurgency doctrine and practice from Vietnam to Iraq, Stanford, 2013, p. 72.
[363] Kretchik, U.S. Army Doctrine, p. 208-215.
[364] United States Army Training and Doctrine Command: Joint Low-Intensity Conflict Project, Final Report, Volume I, Analytical Review of Low-Intensity Conflict, prepared by: Joint Low-Intensity Conflict Project, United States Army Training and Doctrine Command, Fort Monroe, Virginia, 1 August 1986, p. 1-1.

how *"FM 100-5 contains the Army's basic operational concepts for the modern battlefield."* But *"while* FM *100-5 asserts its universality for all levels of conflicts, it does not adequately address low-intensity conflict. […] It contains the Army's basic operational concept – the air-land battle [sic!]. This doctrine is heavily influenced by the Soviet threat, concentrating on the mid- to high-intensity battlefield."*[365] The authors stressed further that:

> *"The 1986 version [of FM 100-5] recognizes that low-intensity conflict is different, but it ignores how it is different and how the Army should cope with these differences. […] No one reading this manual would make the mistake that it concerns itself with low-intensity conflict. Yet, the FM influences force structuring which in turn drives capability and thinking. By not adequately addressing low-intensity conflict in an integrated or sophisticated fashion, it dismisses by omission this entire spectrum of war."*[366]

The neglect regarding LIC would continue for a few years to come, even as the *Center for Low Intensity Conflict* (CLIC) began its operations in January 1986. [367] But the corresponding thoughts were absolutely present and would increase after the fall of the Berlin Wall. In a memo to the TRADOC commander and its staff officers R. Roger Wolfe wrote in 1990: *"The probability of global war/major theater conventional war is low, but the probability of regional conflict is high. Some mid-intensity conflict could occur but conflict will most likely occur in low-intensity environments. The spread of challenges in low-intensity conflict is broadening and taking on more dimensions."*[368] And an Army lessons learned bulletin in 1990 stated:

> *"Low Intensity Conflict is a politico-military confrontation between contending states or groups below conventional war and above the routine peaceful competition among nations. It frequently involves protracted struggles of competing principles and ideologies. Low Intensity Conflict ranges from subversion to the use of armed force. It is*

[365] United States Army Training and Doctrine Command: Joint Low-Intensity Conflict Project, Final Report, Volume II, Low-Intensity Conflict Issues and Recommendations, prepared by: Joint Low-Intensity Conflict Project, United States Army Training and Doctrine Command, Fort Monroe, Virginia, 1 August 1986 August 1, 1986, p. B2-1.
[366] Ibid. p. B2-2f.
[367] Crouch, Thomas W.: Historical Report of the Center for Low Intensity Conflict, 1 April 1986 - 31 December 1986, January 15, 1987, AFHRA, K170.2201-7, p. II.
[368] Wolfe, ALB-F, p. 2.

waged over a combination of means, employing political, economic, informational, and military instruments."[369]

The bulletin as well told the Army audience that *"Military power is only one instrument of an integrated solution to a LIC."*[370] Even COIN was discussed as was *insurgency* in a time when the United States had or did still support foreign internal disputes: *"There are four broad categories of operations in LIC: Insurgency and Counterinsurgency, Combating Terrorism, Peacekeeping Operations, and Peacetime Contingency Operations. Any conflict may involve one or more of these categories simultaneously."*[371] While COIN would later be the main *terminus* referred to in the realm of these types of operations, at that time it was most commonly called *Foreign Internal Defense* (FID), when the United States in the realm of the Cold War supported friendly governments battling insurgencies or helped insurgents to fight against governments that did not support United States political objectives. The authors then described in-depth both COIN and *insurgency*: *"Insurgency primarily involves Unconventional Warfare, or the organization, training and support of guerilla forces. […] Counterinsurgency involves the full range of operations in support of a friendly foreign government. Nation building is a key operational concept."*[372] The bulletin's authors realized that there were obstacles to be overcome: *"Overcoming this void in our doctrine and training will take a concerted effort on everyone's part. There are few absolute formulas or rules which will work under all circumstances. LIC requires analysis and thought rather than a checklist application of a school solution."*[373] LIC would then be incorporated into the FM *100-5* in 1993, becoming part of the official military nomenclature.[374]

But obviously the transition from a quasi-bipolar to a multipolar world became a topic at the beginning of the 1990s. Lieutenant Colonel Philipp S. Meilinger, *Air Operations Staff Officer* at the *Doctrine Division* of the *Deputy Directorate for Warfighting Concepts Development* of the United States Air Force, described possible threats in the winter edition 1990 of the *Airpower Journal* as follows:

[369] Center for Army Lessons Learned: Center for Army Lessons Learned Bulletin 90-4, May 90, Introduction to Low Intensity Conflict, Combined Arms Training Activity, Fort Leavenworth, May 1990, p. 2.
[370] Center for Army Lessons Learned, Introduction to Low Intensity Conflict, p. 4.
[371] Ibid. p. 9.
[372] Ibid. p. 10.
[373] Ibid. p. 17.
[374] See chapter 2.4.

> *"The Soviet Union is not the only threat to the United States. […] The information revolution has permitted people all over the globe to see the freedom, vitality, and especially the affluence of democracy and capitalism. […] Insurgencies have been the major source of third-world conflict since World War II. […] Terrorism, especially that related to the narcotics trade, is an increasing threat."*[375]

Next to the notion that not only the USSR would be a threat to the United States stood the *terminus Information Revolution* whereby a statement by Meilinger regarding *high-tech* seems to be interesting:

> *"The battlefields of the future at all levels of conflict will be increasingly dominated by technology. Indeed, battlefield lethality has increased to the point that cheap but effective weapons – such as the Stinger and tube launched, optically tracked, wire command (TOW) missiles – may restore the infantry to dominance after a 100-year hiatus."*[376]

The idea that technology would enable the common *Foot Soldier* (even the *irregularly* fighting or the insurgent!) to become more dominating is noteworthy; something like that had already been claimed at the end of the 1970s, when ATGMs became a threat to tanks. Looking further back into the history of the United States Armed Forces, The United States Army *brass*[377] had as late as in the First World War and Interwar period believed in *Open Warfare*[378] even as the technological advances became obvious (tanks, machine guns, artillery, airplane, among others). The wishful thinking that modern weapons would be less costly and at the same time more *effective* coins the discourse on warfare even today despite that it was disproved often; *"mass"* should be substituted with quality and *"precision"*. Many modern weapons systems such as the *F-22* or the *Littoral Combat Ship* (LCS) should be more *efficient* and maintenance-friendly compared to their ancestors, but their development costs vast sums of money and makes them more expensive in service, too. In January 1991 James B. Motley wrote in the *Military Review* in addition:

> *"Reality is that the world in which the United States must coexist is one marked by civil disturbances, terrorist violence, subversive activities, surrogate wars, insurgencies,*

[375] Meilinger, Philipp S.: The Air Force in the Twenty-First Century Challenge and Response, in: Airpower Journal, Winter 1990.
[376] Ibid.
[377] High-ranking military officials, e.g. Generals.
[378] Cf. Odom, William O.: After the Trenches: The Transformation of U.S. Army Doctrine, 1918 – 1939, Texas, 1999.

> *guerrilla warfare and other forms of low-level violence. It is a world embroiled in a form of warfare that is unsettling to the US perception and approach to war, but the kind of war that the United States will be called upon to fight in the foreseeable future."*[379]

So doctrine was also discussed by Motley and the question was, if it was tailored to the likeliest threats.

AirLand Battle Future

Despite these warnings and discussions at this moment the Army continued working on the *AirLand Battle Future* and tried to adapt the concept at the end of the 1990s accordingly to the new circumstances as well as including the technological advances. *Chief of Staff of the Army* General *Army* Vuono stated at the *Armor Conference* in May 1989:

> *"AirLand Battle makes sense. It's a doctrine that will take us forward over the next several years. We are refining our doctrine and developing concepts that will take us out to the next century. We call this doctrine AirLand Battle Future […] how we are going to fight in the next century with our heavy forces so we can develop our battlefield systems around that concept."*[380]

Not only did Vuono officially state the usefulness of *AirLand Battle* (*Future*), he also advocated the use of heavy forces, one of the Army's main statements. Richard Noel argued similarly in an *Army War College* study in 1990: *"Air Land Battle has provided the U.S. Army the doctrinal base for the past two decades and can still provide a critical basis as we prepare our doctrine for the 21st Century."*[381] *AirLand Battle* and its tenets would indeed be reused in future doctrine documents. The February edition of the *Military Review* in 1991 then contained several articles about the new version ALB-F. Major General Steven Silvasy Jr., *Deputy Chief of Staff for Concepts, Doctrine and Developments* at TRADOC, discussed the future battlefield:

> *"Increasingly, we will fight on less dense, more open battlefields. […] Ironically, the growth in lethality relates less to the enhanced capabilities of direct-fire systems than it does to the tremendous advances in the ability of military forces to acquire information*

[379] Motley, James B.: US Unconventional Conflict Policy and Strategy, in: Military Review, January 1990, p. 2-16, here p. 3.
[380] Vuono, Carl E.: General Carl E. Vuono, Chief of Staff of the Army, Address to the Armor Conference, 10 May 1989, AHEC, The Carl E. Vuono Papers, Box 14, 4th May 1989 - 31st May 1989, Speeches and Remarks, p. 8.
[381] Noel, Richard L.: Follow on Force Attack: A concept for the 21st Century?, U.S. Army War College, Carlisle, PA, 1990, p. 4.

about the enemy; to fuse and distribute it on a real-time basis; and to engage high-value targets at great distances with exceptional accuracy."[382]

While information about the enemy was increasingly important in *AirLand Battle* (find him, locate him and then destroy him) it became even more important in *AirLand Battle Future*, when and if the battlefield became even larger geographically. The image of war as well did not change significantly compared to *AirLand Battle*:

"The corps commander […] will control long-range fires to weaken the enemy force and to allow our forces to break through (in an offensive) or to force a decision (in an operational defense). […] Units will move quickly along multiple axes, concentrate rapidly at the appointed place and time and strike the enemy."[383]

Noel as well did portray the idea of quickly massing forces: *"The concept for Air Land Battle-Future will use technology to find the enemy and link these sensors to the attack assets. The first priority will be to mass fires to destroy the enemy. If forced to commit ground forces, then dispersed attack forces will be massed, fight, redisperse and reconstitute."*[384] *"Mass*" therefore still played a role, but only to concentrate fires. And the image of quickly massing and then redespersing forces would resurface again in the realm of *AirSea Battle*.[385]

In the future shown farther ranging *"firepower"* would be deployed on a larger battlefield. A TRADOC memo stated in 1990: *"We are at appoint where improvements in weapons system technology […] will give us the capacity to engage enemy forces at long range (in excess of 100km), with very accurate and very lethal weapons."*[386] At least the term *"maneuver*" seemed to reach a higher importance however. Lieutenant General Frederic J. Brown, former *Chief of Armor* of the United States Army, spoke about the *"depth*" of the battlefield in another article:

"ALBF [AirLand Battle Future] is the logical extension of ALB [AirLand Battle], envisioning what can be possible in the latter half of this decade. The doctrine will use to advantage the quality of our equipment and the competence of our professional force to create a non-linear battlefield, where our commanders both know combatant locations and can

[382] Silvasy Jr., Stephen: AirLand Battle Future – The Tactical Battlefield, in: Military Review, February 1991, p. 2-12, here p. 3.
[383] Ibid. p. 6ff.
[384] Noel, Follow on Force Attack, p. 20f.
[385] See chapter 3.5.
[386] Wolfe, ALB-F: an evolving concept, p. 4.

engage to the full 500-kilometer projected depth of the battlefield-technology and resources permitting."[387]

So new technologies would make it possible to attack enemy armored columns yet "*deeper*" in the area, farther distant from the FLOT. The increasing dissolution of the Warsaw Pact seemingly did not cause a breach with the planned type of war. While the Army's doctrine thinkers seemed to come away from the focusing solely on the Warsaw Pact, they did try to sell their concept as working as well against other, possibly regional, threats with *conventional* capabilities (see above). Noel summed the principal idea of ALB-F up*: "Air Land Battle-Future provides the wrath of overpowering, massed, focused weapons system brought to bear against an adversary."*[388] Eventually Major General Rudolph Ostovich Jr. III, commanding the *United States Army Aviation Center*, wrote about the role of army aviation:

"Army Aviation stands at the threshold of a unique opportunity, an opportunity to write a new chapter in the book of land warfare – one that capitalizes on its inherent versatility, lethality and deployability. Aviation will play a more important role than ever before on the future battlefield. […] The establishing of conditions for decisive operations stage of ALBF is where long-range, lethal weapons systems come into play. It is here that attack aviation can best combine its speed and firepower with that of extended range artillery and tactical air systems."[389]

Here as well farther ranging *"firepower"* is mentioned again. Major Edward J. Sinclar wrote a diploma thesis at the *School of Advanced Military Studies* at the *Command and General Staff College* with the title *Attack Helicopters: Airland Battle Future's Sword of Vengeance*; he also saw the attack helicopter being one of the central elements of *AirLand Battle Future*:

"Current ALB doctrine envisions linear warfare that becomes nonlinear when opposing forces become intermingled. ALBF envisions forces employed initially in a nonlinear configuration. The central idea of the ALBF concept is to use technologically advanced sensors to find, track, and target the enemy for destruction by massed indirect fires followed by fast-moving combined arms teams to complete the destruction of the attrited forces. […] Enemy forces are engaged at extended ranges by all available fire

[387] Brown, Frederic J.: AirLand Battle Future – The Other Side of the Coin, in: Military Review, February 1991, p. 13-24, here p. 15.
[388] Noel, Follow on Force Attack, p. 23.
[389] Ostovich III, Rudolph: Army Aviation in AirLand Battle Future, in: Military Review, February 1991, p. 25-29, here p. 27f.

assets. The corps commander may commit attack helicopter units throughout the depth of the battlefield to maximize their mobility, speed, and firepower advantages. "[390]

In the end, within the scope of the concept *AirLand Battle Future* the technologically logical extension of *AirLand Battle* was discussed. Technology in this way of thinking generated more *"precision"*, networking and range; the network which was already envisioned with *AirLand Battle* would later develop in its own concept altogether. It should enable the dispersed forces to be more *effective* and *efficient*, again replacing *"mass"* or quantity with quality. And this in the end led to a battlefield on which the single elements operated more scattered. *"Firepower"* and *"maneuver"* remained important terms in this context, with a slight advantage benefitting the former. However, the basic principles and planning scenarios stayed the same as with *AirLand Battle*. Only the distances seemed to be greater, as Colonel John A. Warden pointed out in a memorandum to General McPeak, *Chief of Staff of the Air Force* from 1991 until 1994: *"The ALB-Future, despite its words to the contrary, doesn't seem to be much different than ALB-Present in that it assumes enemy ground formations {read second-echelon} would move hundreds of miles to attack a particular US corps and that US ground forces would bear the brunt of responsibility for stopping the attack."*[391] While *AirLand Battle* did lead to its own *Manuals*, ALB-F then did not get into an official document at all. The Gulf War in 1991 (Operation *Desert Storm*) would alter the discourse on warfare as will be seen and therefore ALB-F would not appear in the next iteration of FM *100-5*. *AirLand Battle Future* seems to be the fitting concept in two different ways for the conclusion of this first period until to the Gulf War in 1991. The excerpts taken out of the different *Field Manuals* or *Air Force Manuals* and contemporary articles in the military publications are indicative of the perception of the *"modern war"*.

1.9. Interim conclusion: fighting against the Warsaw Pact

This first part already analyzed different discourses that can be discerned as separate topics/subjects. The discourse on the battlefield described a spacious chaos starting with the *Manual* from 1982, without any clear linear frontlines, while the 1976 edition had rather

[390] Sinclair Edward J.: Attack Helicopters: Airland Battle Future's Sword of Vengeance, Fort Leavenworth, January 1991, p. 12f.
[391] Warden III, John A.: Memorandum for General McPeak, 10 March 1991, in: Col Warden Papers, AFHRA, NA-526.

seen only one important frontline. The battlefield was therefore thought mostly in a geographical way, adding time as another dimension with *AirLand Battle*.

Regarding the discourse on the type of war or the spectrum of conflict, the United States Army at the close end of the Cold War still seemed to overwhelmingly focus on the *conventional High-Intensity Conflict*. Therefore, the *counterinsurgency* mission remained sidelined, as House argues, notwithstanding its brief resurgence in the guise of LIC.[392] The eventual concept of *AirLand Battle Future* then only described long range *"firepower"* on an even more enlarged geographical battlefield.[393] The *High-Intensity Conflict* was that much focused on Central Europe that the *Central Battle* seemed not only to be in the main focus of military thinking; it even was named accordingly. However, the war, which had been imagined for the better part of a decade, would not be fought in the forests and plains of Central Europe. It would rather take place in the Southern Deserts of Iraq.

The discourse on the enemy presented the Soviet *"mass*" army *"speeding*" across Central Europe. The enemy was exaggeratedly thought as gigantic and overwhelming, and the Warsaw Pact soldier, compared to the Western one, imagined as being mentally less free, having less initiative, flexibility and decentralized control. Especially the Warsaw Pact and Soviet officers had allegedly a scientific and rigid attitude towards war; at the same time United States officers tried to cope with the enemy *"mass*" first using scientifically perfected capabilities, then using technical means.

Technology would thereby primarily play a role as facilitator of *"firepower"*. While *AirLand Battle* did propagate *soft* factors such as initiative and was indeed based on German concepts, in the end, it resorted to *"firepower*" and therefore technological means. Leonhard therefore rightfully accuses *AirLand Battle* of being too much technology-based and having still neglected the dynamics of leadership, morals, deception, fatigue, and other factors.[394] House even speaks of *"a cultural affinity to leverage the challenges to national interests by technology."*[395] And this even as initiative, mental agility and "*Auftragstaktik*" were presumed to be *decisive* for the conduct of the battle, which was being seen as chaotic as described through the discourse on the battlefield.

[392] Fitzgerald, Learning to forget, p. 85.
[393] Leonhard, The art of maneuver, p. 235 and 239.
[394] Ibid. p. 139ff.
[395] Adamsky, Dima: The culture of military innovation – the impact of cultural factors on the Revolution in Military Affairs in Russia, the US, and Israel, Stanford, 2010, p. 61.

In the realm of the discourse on warfare, as a doctrinal concept, *AirLand Battle* was neither revolutionary nor cribbed from the *Blitzkrieg* concept, but it was nonetheless shaped by German ideas.[396] United States military thinkers indeed never abandoned the predominance of *"firepower"* and therefore interpreted *Deep Operations* and *combined arms* differently as had the Germans or Soviets earlier. Regarding the term *"maneuver*", according to Leonhard the Army in 1982 came close to the actual (Soviet) idea of *"maneuver*" with *AirLand Battle*, but more and more went back to the principle of attrition using the scope of technological possibilities. While *"maneuver*" had been the repositioning of forces along a frontline in *Active Defense*, *AirLand Battle* first foresaw its own units *"maneuver*" behind the frontline. But the actual idea of *"maneuver*", to outmaneuver an enemy mentally, was not implemented accordingly. House writes, how the 1982 and 1986 *Manuals* reflected how *AirLand Battle* was in part a natural reaction against the cold calculations of the *Active Defense*. It seemed to reemphasize the importance of leadership and *"maneuver*" and specified that commanders of larger units must concern themselves with higher levels of the opponent's army and larger, deeper areas of the battlefield.[397] *"Depth*", another of a set of important terms in the discourse on warfare, was seen as a geographical parameter as well, becoming important in scope of *AirLand Battle*. While the time factor was as well included, it was mostly used to measure the distance of enemy forces to the front.

Fighting that enemy and bringing him off *"balance*", imposing one's own *"will*" on him. That was what Landpower, what the Army was for. But the decisive close battle or fight, that had been decisive in the first and last battle of a short war with *Active Defense*, was supplemented by the *Deep Battle* within the scope of *AirLand Battle*. And at that point discussions began on the role that the Air Force, or Airpower, would have providing large parts of the *"firepower"* necessary for the Army's idea of *Deep Battle*. Looking at the discourse on Airpower and its abilities, some pilots or airmen did not seem to be comfortable with their planes being imagined as flying artillery systems supporting the Army on the ground. Being subordinated to the ground battle did not fit into the image of war that these airmen had. Indeed, only air assets coordinated by an airman could have enough "*effect*" on the enemy in large part because the Air Force has another perspective, a "*higher*" point of view onto the battlefield.

[396] Lewis, The American Culture of War, p. 295.
[397] House, Combined Arms Warfare, p. 251.

II. From the *Revolution in Military Affairs* to *Effects-Based Operations* (1991-2000)

2.1. Conclusions drawn from Operation *Desert Storm*

Citino names Operation *Desert Storm* the "*long road back from Vietnam"*; in his eyes it was the most successful military operation In the United States' military history (measured against the limited ends).[398] The Air Force thought that it had, for the first time in history, beaten an enemy state only by using airstrikes. However, the Army believed it had given the *decisive blow* to the Iraqi forces despite the airstrikes. Both are old ideas and arguments, and despite *termini* such as *Jointness,* the traditional mindsets of both branches were everywhere to be seen.[399] In spite of some first attempts to true *Jointness,* the Air Force tried to develop technologies and doctrine to prove ground troops unnecessary. However, the Army thought that ground troops would be decisive in the future too.[400] A report of the *Congressional Research Service* (CRS) in 1991 criticized that Operation *Desert Storm* had not been a severe test of the *AirLand Battle* doctrine. The report stated that Iraq's air force had put up only little resistance and that Iraqi ground forces had adopted a static defensive posture in fortified positions, which allowed the United States Army to freely exploit *AirLand Battle's* emphasis on initiative in picking the time and place of attack and *"maneuver"* in its sweeping flank attack through southern Iraq. Iraqi ground forces as well had fought only seldom against coalition ground forces.[401] Max Boot argues that *"although the 'left hook' that swept around Iraqi forces entrenched in Kuwait showed some operational flair, it was hardly a gamble – the eight-division allied force was so heavy that it simply crushed everything in its path."*[402] In a 2001 interview, Army Lieutenant Colonel Harold R. Winton, a retired career officer, who had held postings as Professor of Military Art and Science at USAWC and as Professor of Military History and Theory at the *Air University*, stated: *"I mean we were lucky in a way between Vietnam and Desert Shield. It was a set up. All we had to do was change the theater. Okay? And it was easier to fight AirLand Battle in the desert than in*

[398] Citino, Blitzkrieg to Desert Storm, p. 288.
[399] Lewis, The American Culture of War, p. 333f.
[400] Ibid. p. 296. Cf. hereto also Van Creveld, The Age of Airpower, p. 331.
[401] Bowman, Steven R.: Airland Battle doctrine, in: O'Rourke, Ronald (ed.): CRS Report for Congress, Persian Gulf War: Defense-Policy Implications for Congress, Congressional Research Service - The Library of Congress, May 15, 1991, p. 13-14, here p. 13.
[402] Boot, Max: The New American Way of War, in: Foreign Affairs, Volume 82 No.4, July/August 2003, p. 41-58, here p. 41.

Europe. […] Yes we did very, very well. But we were given exactly the kind of war that we wanted."[403] The stage had been set for a demonstration of *AirLand Battle*-derived capabilities such as *Deep Battle*, especially its technological applications. However, the Iraqi army was neither poised nor instructed to operate offensively against the coalition forces, and so the United States Army chose the time, place, and date to begin and end its operations.[404]

Airpower and Desert Storm

Nonetheless, above all in the military publications the success against Iraq was appropriately honored and consequences for the image of the future war were drawn. James W. Canan, *Senior Editor* of the *Air Force Magazine*, described the air war above Iraq in the March 1991 edition:

> *"Operation Desert Storm had begun, set off by an air campaign that would soon prove unprecedented in its intensity, precision, and lethality. […] Desert Storm soon made the point. By itself, airpower may not have been enough to dislodge Saddam Hussein's forces from Kuwait, but it surely was needed to soften them up, and it did so."*[405]

Airpower only had, according to Canan, made possible the ground offensive by metaphorically *"softening up"* the Iraqi Armed Forces in a way that had never been seen before. Though, there had been similar applications of Airpower before. One example was Operation Cobra in 1944, when the *First United States Army's* offensive into Brittany was initiated by concentrated aerial bombardment.[406] Lieutenant Colonel Price T. Bingham in the *Airpower Journal* in Winter 1991 argued similarly:

> *"As a result, perhaps the most important lesson the US military could learn from Desert Storm is that it needs to change its doctrine to recognize the reality that air power can dominate modern conventional war (as opposed to revolutionary war and some military activities short of war like Operation Just Cause)*[407]*."*[408]

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[403] Mustion, Richard: Harold R. Winton, USA, Retired, Interviewed by Lieutenant Colonel Richard Mustion, AHEC, Harold R. Winton Papers, Oral History Transcript, Box 1 of 1, US Army Military History Institute, Senior Officer Oral History Program, Project 2001-9, Carlisle, PA, 2001.

[404] Sheridan, Gregory: Phoenix in the Desert: How the 1973 Yom Kippur War influenced American non-nuclear warfare and AirLand Doctrine, University of Glasgow, Scottish Centre for War Studies, MLitt War Studies, July 2006, p. 41f.

[405] Canan, James W.: Washington Watch: Airpower Opens the Fight, in: Air Force Magazine, March 1991.

[406] Buckley, John (ed.): The Normandy Campaign 1944: Sixty Years on, London, 2006.

[407] United States intervention in Panama in December 1989.

Bingham confessed here (only in brackets although), that Airpower is not for all cases or scenarios the right instrument. Despite that, he demanded an adjustment to the whole Army as well as Air Force doctrine because Airpower had displayed a dominance. The term Airpower was therefore used prominently and defined further as the capability of the Air Force to have *decisive "effect"* on the ground. Furthermore, Bingham in the scope of his argumentation handled the concept *AirLand Battle* quite harshly:

> *"Perhaps because it is called AirLand Battle doctrine, many of these same commentators also mistakenly believe that it is Air Force as well as Army doctrine. Yet, despite the opinion of these commentators and the 'air' in its title, comparison of Army doctrine to the conduct of Desert Storm reveals that it failed to anticipate the dominant role played by air power."*[409]

AirLand Battle was, according to Bingham, not Air Force doctrine, hence because the Army had not incorporated the possibilities of Airpower accordingly. Note the perpetuation of the discussions that had already taken pace in the 1980s after *AirLand Battle* had been developed. In 1992 John D. Morocco, *Senior Military Editor* of *Aviation Week & Space Technology* described in the January edition of the *Air Force Magazine* that the visions of Airpower theorists had become true:

> *"After more than forty years of unfulfilled promises, airpower achieved nearly all that its most vocal advocates had said it could do. The concept of 'victory through airpower', espoused by Giulio Douhet, Billy Mitchell, and other prophets*[410] *of airpower, was largely realized in the war against Iraq."*[411]

Whereas Morocco also remarked how the circumstances in the Gulf had been ideal, in the Air Force even the own institutional orientation was criticized after *Desert Storm*, as Lieutenant Colonel Meilinger wrote in the *Airpower Journal* in spring 1992:

> *"One would think that the Gulf war, the most decisive air war in history, would sweep away the doubts and uncertainties regarding the potentialities of air power. Unfortunately, that may not be the case. Some leading airmen are still reluctant to draw*

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[408] Bingham, Price T.: Air Power in Desert Storm and the Need for Doctrinal Change, in: Airpower Journal, Winter 1991.
[409] Bingham, Air Power in Desert Storm.
[410] General „Billy" Mitchell was one of the dominant advocates of Airpower in the United States in the interwar period. He envisioned aircraft attacking the enemy deep in its own territory with huge weapons, especially war relevant industry and population centers. The Italian Gulio Douhet proposed attacks using chemical or biological weapons. Cf. Van Creveld, The Age of Airpower, p. 55ff.
[411] Morrocco, John D.: From Vietnam to Desert Storm, in: Air Force Magazine, January 1992.

lessons regarding the role of air power in future wars. […] Air power had always promised decisive results, and although it had indeed delivered on those promises over Germany, Japan, the Sinai in 1967, and North Vietnam in 1972[412]*, many people insisted on muting or diluting those lessons. Even our overwhelming victory in the Gulf air war seems not to have removed all of these doubts."*[413]

So Meilinger saw the prophecy of earlier Airpower proponents coming true, but his proposition was and still is disputable at the very least, as the aerial bombardments over Germany in the Second World War and their impact are debatable. But Meilinger believed, as Bingham, that Airpower had been handled unjustly before.[414] Meilinger as well brought up the *"future wars"*, showing off his ideas on the imagined next war. In autumn 1992 Colonel Dennis M. Drew, Professor at the *Air University*, took in the *Airpower Journal* the same line on Airpowers' role as Meilinger did:

"The most obvious symbolic meaning of the Desert Storm experience was that air power has matured as an instrument of war. […] However, the dominant nature of air power is not a surprising 'bolt from the blue.' Rather, it is the culmination of a long-term trend. […] The air campaign in Desert Storm illustrated the advantages of parallel operations in a three-dimensional model of war."[415]

Airpower now seemed to dominate *"modern warfare*" or the *"model*" thereof (note the scientific style of language) and should be conducted *parallel* on different levels and against different types of targets. The *terminus parallel warfare* will thereby not be seen for the last time. The idea of *"precision"* attacks was also propagated by Lieutenant General Buster C. Glosson, then *Air Force Deputy chief of staff for plans and operations*:

"We are writing a new and exciting chapter on air power – a chapter made possible in part by precision guided munitions (PGM). […] Air power's precision, lethality, and ability

[412] Van Crefeld describes the aerial campaign against Germany in the Second World War as having mainly hindered the German Air Force from taking part in *combined arms warfare* than having scored decisive results on the strategic level. Against Japan the two atomic weapons dropped on the cities of Hiroshima and Nagasaki had an enormous *„effect"*. In the Sinai in1967 the Israeli Air Force scored tremendous success on the tactical and operational level, but no noteworthy *„effect"*on the strategic level. In Vietnam in autumn and winter 1972 strategic bombing attacks were able to stop the North's intention of fighting *conventional*ly instead of using guerilla-style attacks, but they could not prevent the defeat of the South. Cf. hereby Van Creveld, The Age of Airpower.

[413] Meilinger, Philipp S.: The Problem with Our Air Power Doctrine, in: Airpower Journal, Spring 1992.

[414] This is especially interesting regarding the background that the Air Force at the beginning had been part of the Army.

[415] Drew, Dennis M.: Desert Storm as a Symbol, in: Airpower Journal, Fall 1992.

to paralyze an adversary is at an all-time high. […] I cannot imagine a future conflict in which air power will not be a major factor in achieving our national objectives."[416]

Here was an even lavish appearing imagination of Airpower capabilities celebrated. General Glosson was chief of the *Black Hole* planning group in the scope of Operation *Desert Storm,* and he would have preferred to attack earlier and only with Airpower to win the war without the Army, according to Lewis.[417] He even openly blamed the political and military decision-makers for not having had the will until then to bet on Airpower. The self-esteem of the Air Force was also obvious in another article by Lieutenant Colonel Price T. Bingham in the *Airpower Journal* in autumn 1993:

"The performance of air power in Operation Desert Storm bears witness to the revolutionary impact of these technical developments. […] Such advantages demonstrate that in many circumstances air power should be the primary tool for destroying an enemy army. Land forces would still be necessary but normally in a supporting role."[418]

Airpower was hereby presented as being the primary means of *"modern war*" too. Bingham saw the Army doctrine represented by the *AirLand Battle* to be *"obsolete"*.[419] He also advanced the opinion that ground troops would play a secondary role in future. They would also be saved from suffering casualties according to Air Force General John M. Loh, Commander, ACC from 1992 until 1995: *"We saved a lot of lives in the Gulf War by taking full advantage of the airpower our nation wields."*[420] Note the quite cynical appraisal of Airpower in the face of an enemy who had been shot up and clubbed without restraint, especially by Airpower and on the retreat. Similarly, Colonel Larry D. New wrote in the *Airpower Journal* in autumn 1996 that the coalitions losses had been minimized by Airpower:

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[416] Glosson, Buster C.: Impact of Precision Weapons on Air Combat Operations, in: Airpower Journal, Summer 1993. Also regarding the role of *PGMs*: Kaminski, Paul G.: One Target, One Weapon, in: Air Force Magazine, August 1996.

[417] Lewis, The American Culture of War, p. 322.

[418] Bingham, Price T.: The United States needs to exploit its Air Power Advantage, in: Airpower Journal, Fall 1993. Other related articles: Bingham, Price T.: Revolutionizing Warfare through Interdiction, in: Airpower Journal, Spring 1996; Bodner, Michael J. / Bruner III, William W.: Tank Plinking, in: Air Force Magazine, October 1993; Bordeaux, John / Ochmanek, David: The Lion's Share of Power Projection, in: Air Force Magazine, June 1993; Gunzinger, Mark A.: Airpower as a Second Front, in: Airpower Journal, Fall 1995; Mann, Edward: One target, one bomb – Is the principle of Mass dead?, in: Airpower Journal, Spring 1993; und McCabe, Thomas R.: The limits of Deep Attack, in: Airpower Journal, Fall 1993.

[419] Bingham, The United States needs to exploit its Air Power Advantage.

[420] Loh, John M.: Draft Speech for General Loh, Army Command and Staff College, FT Leavenworth KS, 12 Mar 94, AFHRA, 01155262, p. 18.

> *"Iraq's will to fight, from its foot soldiers to its national command authorities, was all but eliminated by the air war. Air forces of all the coalition services, employed under centralized control, prevailed while our surface forces suffered very few losses (total Americans killed in combat were 147). The ensuing ground action was essentially an unexpected mop-up operation against a fielded military that started at a strength of 44 army divisions!"*[421]

New saw ground troops to be some kind of a "*cleaning force*" that was to be deployed only when the aerial offensive had been already conducted. Bert Cooper wrote in the CRS report in 1991: *"Coalition ground forces didn't exactly walk into Kuwait unopposed, but the surprisingly rapid and completely one-sided nature of the ground campaign confirmed for many the essential validity of the airpower argument in this case."*[422] Airpower proponent Benjamin Lambeth wrote in his monograph: *"Clearly it took both assets to produce the final victory. However, owing in considerable part to air power's preparation of the battlefield, only 148 U.S. military personnel were killed*[423] *and 458 wounded during the actual course of fighting."*[424] But the *Government Accountability Office* (GAO) concluded in an assessment, that ground forces in 1991 in the short ground offensive (100 hours) had destroyed more enemy equipment than the Air Force in one month.[425] Despite that the *Chief of Staff of the Air Force* (CSAF), General Gene Meyers, wrote similarly in the *Airpower Journal* in summer 1996:

> *"Unfortunately, it was not until Desert Storm that we discovered that conventional air operations could not only support a ground scheme of maneuver but also could directly achieve operational- and strategic-level objectives – independent of ground forces, or even with ground forces in support."*[426]

Herein one has to mention critically that Airpower had accomplished goals at the operational or even strategic level before *Desert Storm*, even as they were not as successful as Meilinger had argued (see above). Interestingly, Meyers did not copy the argumentation many of his fellow airmen used in the journals. He possibly did want to sell the strategic

[421] New, Larry D.: Clausewitz's Theory: *On War* and Its Application Today, in: Airpower Journal, Fall 1996, p. 78-86, here p. 82.
[422] Cooper, Bert: Airpower, in: O'Rourke, Persian Gulf War, p. 15-17, here p. 15.
[423] From these 148, 35 were killed by friendly fire. Another 145 died in non-combat-related accidents.
[424] Lambeth, The Transformation of American Air Power, p. 129.
[425] Ibid. p. 364.
[426] Fogleman, Ronald R.: Aerospace Doctrine, in: Airpower Journal, Summer 1996, p. 40-47, here p .41.

ramification of Airpower as something new. General Meyers in his article accordingly highlighted the *strategic attack*:

> *"Air forces again demonstrated the utility of strategic attack – this time conclusively – during the Persian Gulf War, when the coalition marshaled airpower in all its forms and service livery to render the adversary leadership deaf, dumb, and blind, and isolate it from its military forces. Only then did the ground war proceed."*[427]

Here too one can find the reference regarding the preparatory work done for the ground force in *Desert* Storm. Again, there is the interesting hint that Airpower had really proved its *decisive* capabilities, leaving the enemy absolutely without a chance. In the 1996 December edition of the *Air Force Magazine* General Chuck Horner, chief of aerial operations against Iraq in 1991, registered:

> *"Desert Storm marked the first large-scale employment of stealth aircraft – the F-117 – equipped with precision weapons. The combination has revolutionized warfare. […] The F-117s did more than just pave the way for less-capable aircraft. They allowed us to strike the 'heart' of the enemy – downtown Baghdad – with impunity, regardless of the defenses. […] The Gulf War gave me a glimpse into the future of warfare."*[428]

The combination of *Stealth* and PGM appeared here as a revolutionary element. Noteworthy as well is the utilization of the word "*heart*", to label an enemy control center or even a *point of main effort*. The following was then to be found about the role of *Stealth* in the *Gulf War Air Power Survey*, written in 1993 under the lead of Professor Eliot A. Cohen on behalf of the Air Force:

> *"Low observability made possible direct strikes at the heart of the Iraki [sic] air defense system at the very outset of the war. In the past, air forces fought through elaborate defenses and accepted losses on their way to the target or rolled those defenses back. In the Gulf War, the Coalition could strike Iraqi air defenses immediately, and they never recovered from these initial, stunning blows."*[429]

Here as well the enemy's "*heart*" was emphasized. The *"blows"* resemble the image of the boxing fight the Army wanted to stage in the scope of *AirLand Battle*, but its use here means

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[427] Myers, Gene: A Commentary: Interservice Rivalry and Air Force Doctrine, in: Airpower Journal, Summer 1996, p. 60-64, here p. 62.
[428] Horner, Charles A.: What We Should Have Learned in Desert Storm, But Didn't, in: Air Force Magazine, December 1996.
[429] Cohen/Keaney, Gulf War Air Power Survey, p. 224.

airstrikes. Even as the *Air Power Survey* stressed these initial attacks, during the course of *Desert Storm,* Airpower would still encounter difficulties in its application. For example, despite JSTARS, satellite reconnaissance or AWACS the "*fog of war*" existed further on.[430] Either these systems were not capable of covering the whole battlefield or the analysis of the data they produced was plainly too time-consuming. Sometimes Army units encountered large Iraqi formations of which they did not know beforehand.[431] In reality, the idea of a victory only through airstrikes was hampered by bad intelligence, difficulties with targeting, and the *Battle Damage Assessment* (BDA), as well as the rivalry in-between the branches, bad weather, bureaucratic obstacles and the limitation of human and technological capabilities.[432] All the problems mentioned were neither new nor unique to the *Desert Storm* air campaign. Neither did the Air Force have any more *Forward Air Controllers* (FAC) who would have been immensely important to coordinate with the ground forces.[433] The deployment and success of the *F-117* were indeed remarkable, but most of the airstrikes lacked any *"precision"* and finesse. In the scope of the much propagated *Parallel Operations, F-117s* were able to attack strategic-level targets such as the *Air Defense Centre* in Baghdad thanks to their *Stealth* from the beginning, before *Air Defense* forces were rolled back by *systematical* attacks. The *F-117* hit 40 percent of all strategic targets using PGM, flying only two percent of all attacks. But the 170,000 PGMs deployed represented only 8 percent of all the weapons dropped and had to cope with restrictions. CRS wrote in its 1991 report: *"Although U.S. military briefings on the air campaign focused on 'smart' air-to-ground munitions, the vast majority of air-to-ground munitions used in the Persian Gulf War were gravity bombs."*[434] Technical difficulties and restrictions hindered deployment of PGMs: For example, targets had to be illuminated by laser until the weapon hit. However, smoke or dust could interfere with the deployment of laser-guided PGM, as well as weather, in general, even if the open desert environment had offered a near ideal employment arena for allied air power.[435] Even Airpower proponent Benjamin Lambeth had to concede that *"three weeks into the war, a full half of the planned attack sorties into Iraq had been either diverted*

[430] Lewis, The American Culture of War, p. 347.
[431] Ibid. p. 362.
[432] For more cf. Lewis, The American Culture of War, p. 333.
[433] The Air Force had retired its last FAC aircraft shortly before the war; the *A-10* should have taken over, but did not succeed really. Only the Marine Corps had at least *OV-10* in its inventory. Cf. also Lewis, The American Culture of War, p. 335.
[434] Cooper, Bert: Air-launched munitions, in: O'Rourke, Persian Gulf War, p. 25-27, here p. 25.
[435] Lambeth, The Transformation of American Air Power, p. 139.

to secondary targets or cancelled because of weather. Weather frequently hampered the delivery of laser-guided munitions as well."[436] Moreover only 118 Air Force aircraft were capable of utilizing PGM and only the *F-117* as well as the *F-111* were capable of deploying bunker-busting LGB.[437] Hereto the *Gulf War Airpower Survey*: *"The U.S. fighter bombers designed in the 1970s, the F-16 and F/A-18, could not laser designate, and the first squadron of F-15Es received laser-designating equipment only after deploying to the theater, as did the RAF Tornados."*[438] The PGMs which were deployed, such as *Paveway*, had been utilized as early as in the Vietnam War but only as a niche system against special targets like bridges.[439] So the *B-52* attacks with bomb carpets against Iraqi ground troops stood in stark contrast to the limited deployment of PGM.[440] Bert Cooper wrote that it was difficult to contest the success of the air campaign during *Desert Storm*. But at the same time, he argued that it seemed important to note that the Persian Gulf War was a scenario that mostly played to the strengths of Airpower. According to Cooper, the terrain was predominantly flat and bare, which made it hard for Iraqi forces to hide from aerial attacks. Moreover, the Iraqi Air Force did not participate in the war after the first few days, thereby enabling coalition aircraft to focus undisturbed on attacking ground targets. The Iraqi leadership had adopted a fixed defensive strategy, which in turn made most Iraqi units in the desert ideal targets.[441] Therefore, the discourse on the *"efficiency"* and advantages of Airpower in the realm of Operation *Desert Storm* has to be criticized and dismantled accordingly: even from a pure technological perspective, there were many difficulties that were mostly spared from the argumentation in favor of Airpower, of course.

A new American Way of War – and the Army?

Beneath the positive conclusions drawn from the United States Armed Forces' fighting concept in *Desert Storm*, especially by Air Force officers, other voices spoke (against the background of the collapse of the USSR) about the future of war and the *American Way/Style of War*, mostly in the Army's entourage. [442] In the *Military Review* October 1991 edition Colonel James R. McDonough, acting director of the *School of Advanced Military*

[436] Lambeth, The Transformation of American Air Power, p. 144.
[437] Mahnken, Technology, p. 169f.
[438] Cohen/Keaney, Gulf War Air Power Survey, p. 226.
[439] Mahnken, Technology, p. 158f; cf. also Tomes, US Defense Strategy, p. 80.
[440] Lewis, The American Culture of War, p. 335.
[441] Cooper, Bert: Airpower, in: O'Rourke, Persian Gulf War, p. 15-17, here p. 16.
[442] Linn, Echo of Battle, p. 221.

Studies at the *United States Army Command and General Staff College,* drew consequences from *Desert Storm*. He wanted to hold on to the principles of *AirLand Battle* using the new *terminus AirLand Operations*:

> *"Some things should not change. […] Air-Land Operations does not radically change Air-Land Battle; rather it expands and refocuses the concepts inherent in AirLand Battle for the Army in a changing strategic environment. It builds on the foundation of our current doctrine for the employment of Army forces across the operational continuum of peace, crisis and war."*[443]

So the Army should further develop the concept of *AirLand Battle Future* and transfer it to the newly possible scenarios, the *"operational continuum of peace, crisis and war"*, a sort of perpetual *war*. Army Chief of Staff Carl E. Vuono told the participants of a *Pre-Command Course* (PCC) in April 1991: *"You know the Soviet Union, for example, is going to continue to modernize over the years. I do not know what rate, but they are going to modernize and even though the immediate threat to the Soviet Union is reduced, we may not fight Soviets and Soviet tanks, but we may Soviet tanks again as we did in the Gulf."*[444] At the TRADOC *Commanders Conference* at the end of the month, Vuono stated that *"AirLand Battle – a product of TRADOC's imagination and perseverance – is now part of the lore of America. Your challenge is to now ensure that our doctrine continues to evolve so that AirLand Battle-Future will be as effective on the battlefields of tomorrow as AirLand Battle was during Desert Storm."* Then, referring to ALB-F, Vuono went further to open the spectrum of possible missions for the Army: *"AirLand Battle-Future must now include not only the classical principles for combat but also encompass the entire range of military operations from peacetime engagement to major war."*[445] At the *Armor Conference*, in May 1991, Vuono stated: *"The violence that we unleashed during Operation Desert Storm only foreshadows, in my view, our future capability."*[446]And Vuono further told his audience:

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[443] McDonough, James R.: Building the New FM 100-5 – Process and Product, in: Military Review, October 1991, p. 2-12, here p. 6ff.

[444] Vuono, Carl E.: General Carl E. Vuono, Chief of Staff, United States Army, Address to PCC 91-7, Fort Leavenworth, Kansas, 11 April 1991, AHEC, The Carl E. Vuono Papers, Box 35,11th Apr 1991 - 13th Apr 1991, Speeches and Remarks, p. 18.

[445] Vuono, Carl E.: Address to the 1991 Spring TRADOC Commanders Conference, 30 April 1991, Draft as of 17:17, 4/30/91 April 30, 1991, AHEC, The Carl E. Vuono Papers, Box 44, Feb 1991 - June 1991, Magazine articles, p. 11.

[446] Vuono, Carl E.: General Carl E. Vuono, Chief of Staff of the Army, Armor Conference, Fort Knox, Kentucky, 8 May 1991, AHEC, The Carl E. Vuono Papers, Box 37,9th May 1991 - 11th June 1991, Speeches and Remarks, p. 17.

> *"It [the AirLand Battle Doctrine] was manifested, seriously, in the images of armored cavalrymen spearheading the assault deep into Iraq of tens of thousands of Iraqi prisoners plodding south past the burned-out remnants of a once proud army, of Abrams tanks and Bradleys making a mad dash north to seal the fate of the Republican Guard divisions."*[447]

So *Desert Storm* and *AirLand Battle* seemed to be the template for the immediate future or *"modern warfare"* in the Army brass' view. In February 1992, General Gordon R. Sullivan, successor to Vuono as CSA, wrote in *Military Review*:

> *"Today's fights are likely to be at a faster tempo, to cover more ground, and to be more continuous – day and night in all weather. The implications for our doctrine are wide-ranging. […] The revised doctrine will build on the widely acknowledged strengths of AirLand Battle."*[448]

Sullivan too saw the new doctrine being an *update* of the *AirLand Battle*. His image of the *"modern"* battlefield was characterized by an even faster *"speed"* and all-weather capability. In the very same edition of the *Military Review* in 1992 Colonel Peter F. Herrly, *Chief of the Joint Doctrine Branch* at the *Joint Staff*, described the *American Way of War*:

> *"This American way of war focuses on joint campaigns seamless operations from air, land, sea and space, operating with overwhelming force from every conceivable dimension and direction to shock, disrupt and rapidly defeat opponents. Such effectively integrated joint forces expose no weak points to the enemy, but find and attack enemy weak points with devastating precision and power."*[449]

Herrly wrote about *Jointness* as an evolution of *combined arms warfare* and stipulated it as the *American Style of War* as well. *"Shock"* was an addition to *AirLand Battle* doctrine, which did not foresee an immediate defeat of the enemy. The idea that enemy weaknesses had to be found and exploited was, on the other side, not new at all and can be traced back to the writings of Sun Tse. But apart from ideas and *termini,* which came newly into the Army's discourse on warfare, the *Deep Attack* was still one of the mainstays of the general warfighting idea. In July 1993 General Sullivan wrote in the *Military Review*:

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[447] Vuono, Armor Conference, 1991, p. 21.
[448] Sullivan, Gordon R.: Doctrine – A Guide to the Future, in: Military Review, February 1992, p. 2-9, here p. 4-8.
[449] Herrly, Peter F.: Joint Warfare – The American Way of War, in: Military Review, February, p. 10-15, here p. 10f.

> *"Perhaps one of the most unarguable objectives is the value of being able to reach deep into the enemy's territory and conduct precision strikes against his combat, logistic and command formations and lines of communication. […] If we can plan and conduct simultaneous attacks throughout the depth of every sector to destroy, disrupt and control the threat information flow […] we can attain decisive victory."*[450]

The Army was, from its leadership' point of view, still the *decisive* element[451] on the modern battlefield, which had been enlarged by modern technology physically as well as mentally regarding the stronger inclusion of society. Not only would the Air Force be capable of delivering *decisive blows*; the Army's actions could also be *simultaneous* with them.

Air and Ground perspectives

If one differentiates now both the discussions and argumentative structures of both the Air Force and Army, some statements and terms specific to this discourse can be disregarded as they differ only slightly from their counterparts at the end of the 1980s. Airpower dominated *"firepower"* in the *conventional* war in the Gulf, but the Army still saw the *"depth"* of the battlefield, enlarging it, but still adhering to *AirLand Battle*. The Air Force interpreted the victory against Iraq as a cause to see earlier theories of aerial warfare strategy as being finally implemented. The *"finally"* is therefore representative of the relief, which airmen now propagated and their newly-gained self-confidence. In its self-perception, now, after years of negation by the other branches, the Air Force had been *decisive* to victory thanks to modern weapons systems. Against the background of an impending "*peace dividend*", in the eyes of Airpower advocates *Stealth*-bombers and PGM would be the most *cost-effective* means to contain threats, and no other branch was able to attack as quickly and *decisively* as the Air Force. Quickness was then as well promoted by the Air Force in its official statements, here an excerpt from a *White Paper* published in 1990 already: *"Airpower's speed, range, and lethality allows rapid shifting of effects, concentrating firepower wherever the joint force commander needs it – from the close battle, across the length and breadth of the theater, to*

[450] Sullivan, Gordon R.: Moving into the 21st Century: America's Army and Modernization, in: Military Review, July 1993, p. 2-11, here p. 8f.
[451] Hereby one has to mention that in the scope of, Operation *Desert Storm* less *AirLand Battle*, but more *Air-Land Battle* was practiced; cf. Citino, Blitzkrieg to Desert Storm, p. 289.

its deepest reaches."[452] And to further emphasize the Air Forces advantages compared to the other services:

> *"While complementary forces of all the Services will be essential – the Air Force offers, in most cases, the quickest, longest range, leading edge force available to the President. […] The Air Force can deter, deliver a tailored response, or punch hard when required – over great distances – with quick response. We can provide a presence, or put ordnance on a target worldwide in a matter of hours."*[453]

The paper therefore named all the elements which constituted the Airpower discourse during these years: *"speed"*, range, *"precision"* (*"tailored response"*) and its global ambitions. The Army for its part seemed to have more difficulty to benefit from the victory. The medial appearances of the *F-117* hereby were less advantageous. To the contrary, as it seems, the Army found its way after the Cold War less easily. *AirLand Battle* was warmed over again, and after *Operation Desert Storm* over a third of the Army's ground troops were deactivated, the *6th*, *7th* and *9th Infantry Divisions* among others.[454] Some analysts believed that *Desert Storm* represented the most challenging military contingency the Army would likely encounter in the near future. They argued that in the foreseeable future it seemed unlikely that the Army would be called upon to deploy that many forces on such short notice. In contrast with the decision to deactivate the *Infantry Divisions*, commentators believed that smaller LIC were likely.[455] But the Army itself believed that the massive armored operations against the Iraqi military reinforced its preference for *conventional* operations.[456]

At the same time, Army-Air Force relations became much more difficult, as James C. Slife wrote in his 2002 thesis: *"After Desert Storm, Army and Air Force relations took a decided turn for the worse as airmen began to reassert the decisiveness and independence of airpower, often at the expense of the cooperation and general harmony that had*

[452] Headquarters, Department of the Air Force: The Air Force and U.S. National Security: Global Reach – Global Power, A White Paper, June 1990, AFHRA, K168.02-98, p. 7.
[453] Ibid. p. 8.
[454] The *6th Infantry Division* was deactivated in 1994, only one brigade still exists today and is part of the *25th Infantry Division* at this time. The *7th Infantry Division* staff was as well deactivated in 1994, only one brigade exists still and is part of the *2nd Infantry Division*. The staff was reactivated in October 2012, but only to serve as an administrative unit. The *9th Infantry Division* had even been the first to be deactivated in 1991; one of its brigades became the *2nd Armored Cavalry Regiment*.
[455] Bowman, Steven R.: Need for ground forces, in: O'Rourke, Persian Gulf War, p. 31-33, here p. 31.
[456] Fitzgerald, Learning to forget, p. 86.

characterized Army-Air Force relationships since the end of the Vietnam War."[457] The times of a General Starry and a General Creech working together between TRADOC and ACC to fight the Central Battle in Europe seemed to be over, and a period of competition over funding would begin.

2.2. The *Military-Technological Revolution* and the *Revolution in Military Affairs*

The Gulf War experiences did not only lead to the revival of aerial warfare as the *decisive* means. Military officers such as Nikolai Vasilyevich Ogarkov[458] in the USSR had already believed in the 1970s that computers, satellites, long-range weapons, or missiles would alter the character of war.[459] In the 1980s the Soviets saw a *Military Technical Revolution* (MTR) thanks to the United States' PGM, which they considered to be as *effective* as nuclear weapons, and the growing network with sensors (*Reconnaissance Strike Complex*).[460] Tomes defines the synergy of different elements as *Revolution in Military Affairs*: ISR (*Intelligence, Surveillance, Reconnaissance*), automatic target identification, PGM, *Stealth*, better education and training, a more offensive doctrine and *Jointness* belong to it. Dima Adamsky, specialist on modern military thought, argues that the *AirLand Battle* doctrine laid down the technological foundation of the future American RMA.[461] This *Military Revolution* brought fewer changes in structure, character, and scope of the United States Armed Forces as hoped for, but it was a welcome new concept at the end of the Cold War.[462] Throughout the early 1990s the RMA idea would shape the cognitive landscape of American military thought, their image of the future war.[463] The 1991 Gulf War thereby served as sort of catalyst and projection surface by serving as a medial presentation of the modern,

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[457] Slife, James C.: „Creech Blue": General Bill Chreech and the Reformation of the Tactical Air Forces, 1978-1984, A Thesis presented to the Faculty of the School of Advanced Airpower Studies for Completion of Graduate Requirements, School of Advanced Airpower Studies, Air University, Maxwell Air Force Base, Alabama, June 2002, AFHRA, 168.7339-1816, p. 111f.

[458] *Николай Васильевич Огарков*, Marshal of the Soviet Union and *Chief of the General Staff* of the USSR from 1977 until 1984. Generally he is credited with realizing how the technological development in the United States brought a Military-technical Revolution. Cf. Kievit / Metz, Strategy and the Revolution in Military Affairs and Krepinevich, The Military-Technical Revolution.

[459] Mahnken, Technology, p. 176. Regarding Ogarkov cf. also Orenstein, Harold S. (trad.) / Glantz, David M. (forew.): The evolution of Soviet operational art, 1927-1991: the documentary basis, Volume II, 1965-1991, London, 1995, p. 257.

[460] Ibid. Cf. also Tomes, US Defense Strategy, p. 123.

[461] Adamsky, Dima: The culture of military innovation – the impact of cultural factors on the Revolution in Military Affairs in Russia, the US, and Israel, Stanford, 2010, p. 60.

[462] Tomes, US Defense Strategy, p. 129-133.

[463] Adamsky, The culture of military innovation, p. 74.

technological, and "*clean war*". However, despite different reports, such as the *National Defense Panel Report: Transforming Defense – National Security in the 21st Century*[464] from 1997 or the concept *DoD Warfighting Transformation* of the *Defense Science Board* (DSB)[465] from 1999, no really new equipment was procured or no new doctrinal ideas were researched (especially by the Army) in this first ten years after the Cold War.[466]

Technological progress

On the part of the Air Force the *Gulf War Airpower Survey* first of all apprehended the network of sensors and weapons predicted by Soviet analysts:

> *"[…] 'reconnaissance-strike complexes' would enable commanders to detect targets and attack them effectively, at long ranges, and within minutes. […] Episodes such as using JSTARS to detect Iraqi forces moving up for the attack on Al Khafji at the end of January were important exceptions, but exceptions nonetheless."*[467]

But at the same time, the *Survey* chilled the already stirred expectations: *"If history is any guide, the technologies necessary for such dramatic change may require much time and trial before armed forces can use them as effectively as theory might predict."*[468] Even before this *Airpower Survey* from 1993, Andrew Krepinevich, back then working for the *Office of Net Assessment* in *the Department of Defense*, wrote in a paper assessing the *Military-Technical Revolution*:

> *"There is the growing ability to gather, process, and disseminate information (especially information concerning potential targets) far more rapidly than ever before. […] Complementing these dramatic increases in information capabilities are the major improvements in the range, accuracy, and lethality of conventional munitions that may allow us to destroy large numbers of targets over the length and breadth of the theater of operations."*[469]

Here Krepinevich mentioned accuracy (a hint to the PGM) as element of the *Reconnaissance Strike Complex* and the advantages of networking, and the term *"depth"* was circumscribed with the *"length and breadth"* of the theater. According to Adamsky, the *MTR Preliminary*

[464] National Defense Panel: Transforming Defense – National Security in the 21st Century, December 1997.
[465] Defense Science Board Task Force: DoD Warfighting Transformation, September 1999.
[466] Tomes, US Defense Strategy, p. 135f.
[467] Cohen/Keaney, Gulf War Air Power Survey, p. 237.
[468] Ibid. p. 239.
[469] Krepinevich, The Military-Technical Revolution, p. 11f.

Assessment became the intellectual starting point for the future Defense Transformation in the United States. Because of the assessment, five task forces exploring the RMA and its consequences were established the following year.[470] And there was as well a discussion going on in military publications at this time. In 1994 Dr. David Jablonsky, Professor for *National Security* at the *Department of National Security and Strategy* at the *United States Army War College*, wrote in *Parameters* about the RMA:

> *"Change resonates for the American military today as it seeks to come to grips with what the Soviet Union once called the Military Technological Revolution (MTR) and what is now considered a broader Revolution in Military Affairs (RMA). […] The major force for change in that revolution is technology."*[471]

Jablonsky hereby saw technology as the primary driving force behind the *Revolution*. While there will be critical voices to be found further below regarding the role of technology, the discourse on Airpower was very much dominated by it, especially by *Stealth* and the PGM. The *Stealth*-bombers were the new *panacea*, according to Air Force General Loh: *"Stealth gives us certainty that we can penetrate the world's most sophisticated integrated air defenses."*[472] Similarly, in summer 1995 Mark Clodfelter and John M. Fawcett Jr., both Air Force officers, discussed the RMA in *Parameters*, too, and emphasized *Stealth*:

> *"If the perceived RMA is in fact under way, it is likely in its nascent stages and could take 20 years to implement. The key to the revolution, however, will not be technological change, but rather a change in the Air Force mind-set about how to organize and use the weapons at hand. […] A future restructuring may combine stealth and precision munitions in unique ways to accomplish air power's basic goals of destroying an adversary's war-fighting capability and his will to resist."*[473]

But these authors as well stressed the nascence of the RMA and that organizational and doctrinal changes had to be made to implement it. In comparing the last three text passages cited, the differing emphasis on technology seems interesting, especially given that Air Force exponents characterized the combination of *Stealth* and PGM as being not entirely mature,

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[470] Adamsky, The culture of military innovation, p. 69.
[471] Jablonsky, David: US Military Doctrine and the Revolution in Military Affairs, in: Parameters, Autumn 1994, p. 18-36.
[472] Loh, John M.: Draft Speech for General Loh, Aerospace Power Symposium, Maxwell AFB, AL, 19 Nov 93, AFHRA, 01155261, p. 4.
[473] Clodfelter, Mark / Fawcett Jr., John M.: The RMA and the Air Force Roles, Missions, and Doctrine, in: Parameters, Summer 1995, p.22-29, here p. 27.

similar to the doctrine. But the most prominent Air Force proponents would argue vigorously in favor of *Stealth* during the 1990s, especially for the bomber force, which would then be enhanced by the acquisition of the *B-2 stealth bomber*.

Airpower: long-range and stealth

Long range and *precise conventional* weapons seemed to be the new *panacea* for war: *"A prominent characteristic of the emerging global environment is uncertainty and instability. […] A flexible long-range bomber force, capable of rapidly and precisely delivering conventional ordnance against an enemy's most valued assets anywhere on the globe, can help prevent or delay potential escalation and achieve our national objectives over a wide range of conflict levels."*[474] ACC Commander General John M. Loh spoke in front of an Army Command and Staff College audience in 1994: *"Our bomber force has the speed, range, and mass to take the fight to the enemy in the opening hours of a conflict when we don't have the option of working from forward bases."*[475] Loh used terms such as *"speed"* and *"mass"* hereby in a different manner than they were applied during the Cold War: now they described not tank armies, but *"firepower"* delivered by Airpower. And General Charles Horner brought the cost argument into the fight for resources: *"Viewed in terms of the total requirements to hit a target – stealth provides the best bargain. Initial acquisition cost is higher, but stealth systems expose fewer lives, reduce total sorties, and reduce requirements for munitions, manpower, fuel, support infrastructure, and therefore overall cost."*[476] Cost was meant to be *"precision"* and therefore *"effectiveness*". An Air Force paper in 1990 argued accordingly that *"In the conventional role, the B-2 is a formidable weapon. Its stealth characteristics make defense against such a bomber extremely difficult, while its long-range and high payload ensure that any adversary would remain vulnerable. […] The B-2 can penetrate to any location on the planet to deliver massive quantities of ordnance precisely."*[477] The technology bias further shined through:

[474] Headquarters, Department of the Air Force: The Case for the B-2, June 1990, AFHRA, K168.02-100, p. 7.
[475] Loh, John M.: Draft Speech for General Loh, Army Command and Staff College, FT Leavenworth KS, 12 Mar 94, AFHRA, 01155262, p. 12.
[476] Horner, Charles A.: Presentation to the Committee on Appropriations, Subcommittee on Defense, United States House of Representatives, Subject: Stealth and Desert Storm, Statement of: Lieutenant General Charles A. Horner, Commander, U.S. Central Command Air Forces; Brigadier General Bister C. Glosson, Director of Campaign Plans, U.S. Central Command Air Forces, AFHRA, 168.7494-60, p. 2f.
[477] The Case for the B-2, p. 11.

> *"Stealth not only protects an aircraft (defense), but greatly enhances the aircraft's likelihood of prosecuting a successful strike (offense). It enables the attacker to slip in around the most critical defenses of an opponent, and get so close to a target before finally (possibly) being detected that there is little chance of thwarting the attack. It reduces the effective range of an adversary's defenses to the point where they are essentially nullified. Stealth thus provides a revolutionary force-multiplying combat leverage."*[478]

The *terminus force-multiplying* was therefore the perfect argument in favor of *Stealth,* representing the maximum of cost *"effectiveness*". And the Air Force continued to bring forward its cost argument in official statements and papers: *"The bomber's long range means that the United States can project power and enhance presence in a very short time – and often at lower cost relative to other options – regardless of conflict location."*[479] *Stealth* indeed stood for one of the most important concepts in these early years after *Desert Storm*. It was the perfect argument in favor of Airpower in the discussion regarding *"modern warfare"*, meaning fewer costs in hard currency and in lives, perfectly fitting to the perceptions of a new world order after the Fall of the Berlin Wall.

RMA: the pros and cons

In the future, the enemy's *"will*" should be *"broken"* not only through quick *"precision"* attacks but also thanks to a better base of knowledge, which would produce advantages on the strategic level. *Stealth* alone would not suffice to form the RMA; the United States would also have to know where to hit the enemy. Captain James R. Fitzsimonds, a Navy officer, wrote about the RMA in *Parameters* in summer 1995:

> *"It is commonly accepted that future information technologies will allow the commander to know a lot more about the battlefield – to have greater situational awareness of both his own and enemy forces. […] At best, this ability may help us to achieve the goal of universal strategic leverage – compelling any adversary to accede to our will, be that unconditional surrender or some lesser requirement."*[480]

[478] The Case for the B-2, p. 11.
[479] Headquarters, Department of the Air Force: The Air Force and U.S. National Security: Global Reach - Global Power, A White Paper, June 1990, AFHRA, K168.02-98, p. 8.
[480] Fitzsimonds, James R.: The Coming Military Revolution: Opportunities and Risks, in: Parameters, Summer 1995, p. 30-36.

This very confident image of war is more a linear evolution of the battlefield and warfare that the United States Armed Forces envisioned in the late 1980s and would not encompass other types of war or enemies as had happened in 1993. Adamsky argues that the Air Force and Navy traditionally were the most *"techno-friendly and techno-dependent"*. The Army, in his eyes, kept its distance from such a techno-bias, and the Marine Corps valued technology the least. Being *"boots-on-the-ground"*[481] services, the Army and Marine Corps seem to rely to a greater extent on the human element – the soldiers – than on machines, and they put the former at the center of warfare. Adamsky cites the saying that the Air Force and Navy man the equipment, while the Army and Marine Corps equip the man.[482] But this has to be questioned as, for example in *Active Defense,* the Army saw its soldiers manning new equipment, being only operators. It would take some time and the emergence of the COIN campaigns in Iraq and Afghanistan in the early 2000s, for the Army in its discourse to again get back to the single soldier being at the center stage. But there were, at least in-between, more critical voices like John T. Correll, *editor-in-chief* of the *Air Force Magazine,* who showed a more critical stance towards RMA, here in the August edition in 1995:

> *"Nevertheless, the ‚Revolution in Military Affairs' suffers from a definite credibility problem. The first reason is that the name is misleading. ‚Revolution' implies a suddenness that isn't there. Change has not come as a bolt out of the blue but rather from the maturation and application of technology that was pioneered years ago. Second, some of the prophets of the Revolution get carried away and exaggerate."*[483]

As mentioned earlier, the *terminus Revolution* implies a fast change, which was not conceived everywhere.[484] Some authors took the view that some technological developments facilitated brand new possibilities in *"modern warfighting*". The new approach which should revolutionize the battlefield most recently using *Stealth* and PGM had – quite understandably – found more fertile grounds in the Air Force. But as explained at the very beginning, an RMA is composed of technological, organizational, as well as doctrinal elements. The RMA would further evoke critical voices, which cautioned against future

[481] To put *„boots on the ground"* in general means to have soldiers (or marines) go into an area in order to determine what and who is actually present in that area, since using other intelligence assets (e.g. satellite reconnaissance or Airpower) does not always provide reliable and enough detailed results.
[482] Adamsky, The culture of military innovation, p. 86.
[483] Correll, John T.: Signs of a Revolution, in: Air Force Magazine, August 1995.
[484] Other articles about the same topic: Kagan, Frederick: Army Doctrine and Modern War: Notes Toward a New Edition of FM 100-5, in: Parameters, Spring 1997, p. 134-151 and Roper, Daniel S.: Technology: Achilles' Heel or Strategic Vision?, in: Military Review, March-April 1997, p. 87-92.

opponents who would not want to play the game according to the United States' rules. Mark Clodfelter and John M. Fawcett Jr. write in *Parameters* in summer 1995:

> *"The next enemy, however, may not be as vulnerable as Iraq was to high-tech wizardry. Agrarian or semi-industrialized countries may be immune to an air campaign based on stealth and precision. In Somalia, American forces could do little to halt or intercept information exchanges among rebel groups that communicated via signal drums."*[485]

Despite these authors' statements, the intervention in Somalia in 1993[486], which failed from a military point of view, seemingly had little impression on RMA thinking even as the perceived weakness of the enemy is questioned. Interestingly Andrew Krepinevich wrote in his 1992 *Military-Technical Revolution* about a modern enemy who would not want to cope with the United States at eye level:

> *"A ‚Streetfighter State' […] would attempt to exploit those aspects of the U.S. social culture that would inhibit the effective application of American military power. Specifically, acts of aggression would be low-intensity in nature and ambiguous in execution, with emphasis on terrorism, subversion, and insurgency."*[487]

This enemy, which would have been only on the receiving end of United States *"firepower"* if one believed the RMA proponents' image of war, would rather fight in a way not suited to the United States' *conventional* arsenal. With *Low-Intensity Conflict* a contemporary *terminus* for conflict below war was coined. Critical voices existed as shown; nevertheless, problems had nearly no influence on doctrine development– with the failed Somalia deployment in 1993 leading the way – which had shown in a grave way how little superior technology worked against an *unconventionally* fighting enemy. This enemy did not or only partially fit into the image of war of the United States Armed Forces, being only part of the foggy MOOTW (*Military Operations other than War*). The *FM 100-5* 1993 introduced the so-called *Operations other than War* to differentiate the increasing (humanitarian) interventions below the level of war (earlier called *Mid-* or *High-intensity Conflict*). In the 1986 edition of the *FM 100-5* the *terminus Low-intensity Conflict* had been used. Krepinevich

[485] Clodfelter, Mark / Fawcett Jr., John M.: The RMA and the Air Force Roles, Missions, and Doctrine, in: Parameters, Summer 1995, p.22-29, here p. 27.
[486] In the scope of Operation *Gothic Serpent* a number of United States Army helicopters were shot down and *Special Operations Forces* soldiers killed or taken prisoner. For most of the rest of the deployment to Somalia a certain *siege mentality* took place and the situation differed very much from a *conventional* campaign. Cf. Linn, Echo of Battle, p. 223.
[487] Krepinevich, The Military-Technical Revolution, p. 46f.

described in his Vietnam assessment in 1986 that LIC would be the most probable form of conflict for the United States Army and that it as well tried to change this form of conflict into something it could handle. [488] *Counterinsurgency* specialist David Fitzgerald writes:

> *"In fashioning these new concepts for the future international security environment, proponents of the RMA certainly did not extrapolate from contemporary operations or adversaries. It seems more likely that their vision was premised on a bizarre preengineering of what would be possible in the future with the application of technology if future adversaries were the same as the ones that the army had prepared for since World War II."*[489]

But critical voices did indeed exist. Here is Earl H. Tilford Jr. in 1998: *"One of the problems with the current revolution in military affairs (RMA) is that we are not even sure it is a real revolution. And if it is, very few service advocates are willing to consider the kind of changes necessary to make the RMA truly revolutionary."*[490] And he warned further that *"it is dangerous to depend on technology. If a foe with symmetric capabilities emerges in the 21st century, they will attack our technological capabilities and probably degrade them. Or, if they have niche capabilities, they can use them as the North Vietnamese used SA-2s and MiG fighters, to attack our air strategy asymmetrically."*[491] In the end, the kind of "*superficial*" thinking that accompanied the mostly uncritical embracing of the RMA corrupted American strategic and operational thought in subsequent decades, as Adamsky writes.[492]

2.3 The Air Force and the *strategic attack* after the Gulf War

For this thesis two doctrine documents of the United States Air Force from the 1970s, the AFM *1-1* from 1975 and 1979, have been analyzed earlier. In both documents the nuclear strategic *triad* consisting of bombers, ICBMs, and SLBMs, respectively, stood in the first place of the exercise of power. As the chapter about the lessons drawn from the 1991 Gulf War showed, the Air Force evaluated the air war against Iraq as a success and to be the future form of warfare. It is worthwhile to show now how the image of war of the Air Force

[488] Cf. Krepinevich, The Army and Vietnam, p. 274f.
[489] Fitzgerald, Learning to forget, p. 35.
[490] Tilford Jr., Earl H.: Halt Phase Strategy: New Wine in old Skins… with PowerPoint, Strategic Studies Institute, United States Army War College, Carlisle, PA, 1998, p. 30.
[491] Ibid.
[492] Adamsky, The culture of military innovation, p. 75.

presented itself relating to strategic warfare before and after the Gulf War und finally culminated in a new AFM *1-1* in 1992.

The strategic attack in earlier AFM 1-1 editions

While there had been the White Paper *The Air Force and U.S. National Security: Global Reach – Global Power* in 1990, the Air Force took twelve years to publish a new edition of its main AFM. The argumentation of the advocates of *strategic attack* in its general outline was still not new. As early as in the 1975 edition in the Air Force saw aerial warfare as a *decisive* instrument:

> *"Of all military forces, aerospace forces have the greatest capability to take the initiative and to carry out offensive operations quickly against an enemy at any desired time and location. […] The speed and destructive power of aerospace weapons portend that in certain kinds of conflict the initial military offensive action may be immediately decisive. […] Military and psychological advantages may be gained by striking an enemy at a time and place not of his choosing, and in a manner for which he is unprepared."*[493]

The argument that the Air Force could hit an enemy all the time in all kinds had been already postulated by theoreticians such as Gulio Douhet and could even be stipulated as one of the mainstays of the Airpower idea.[494] Further the *Functions and Missions of Aerospace Forces* were highlighted, here the *strategic attack* as one of the primary missions: *"Strategic attack is directed against selected vital targets of an enemy nation so as to destroy that nation's war-making capacity or its will be [to?] continue the conflict."*[495] Similarly the following characteristics described *Aerospace Forces* in the AFM *1-1* from 1979:

> *"The freedom of operations permitted in aerospace allows our forces to exploit the characteristics of speed, range, and maneuverability. These characteristics enable the direct application of power against all elements of an enemy's military resources to a degree not possible by other forces."*[496]

Especially the destructive power was emphasized: *"The concentration in time and space and the shock effect of the destruction that can be achieved by aerospace forces is without equal. Properly employed, aerospace forces are capable of selective or widespread destruction of*

[493] AFM 1-1, Basic Doctrine, 1975, p. 2-2.
[494] Cf. Van Creveld, The Age of Airpower, p. 55f.
[495] AFM 1-1, Basic Doctrine, 1975, p. 3-2 bis 3-3.
[496] AFM 1-1, 1979, p. 3-2.

any enemy forces and other assets."[497] In both editions the reference to the capability of Airpower was already mentioned, being able to exercise power on a wholly different level (compared to ground forces!). *"Shock"* and *"effect"* are to be seen as terms describing the results of airstrikes, which should make clear the inherent violence even to laymen. In a last chapter about the *Evolution of Basic Doctrine,* the AFM *1-1* from 1979 looked back at the past evolution of Airpower and cherished: *"Technology advanced the capability of air weapons systems to the point where they could match their theoretical potential. […] the destructive power of strategic forces was generally immediate and overwhelming."*[498]

The argument that the possibilities of aerial warfare could only now be fully exploited therefore was already brought up years before the 1991 Gulf War. Whereas the interpretation, that *strategic attack* had an immediate *"effect"*, has to be questioned when looking at the experiences against Germany in the Second World War and against Vietnam. The AFM *1-1* from 1984 argued as follows*:*

> *"The nature of the medium gives aerospace forces versatility not common to surface forces. […] For military operations, the aerospace medium exposes an enemy's entire power structure to assault by the aerospace vehicle, including his sustaining warfighting components vital to the prosecution of war."*[499]

Accordingly the enemy could be attacked in its entirety; nothing would be spared by Airpower. Further aerial forces were rumored to have capabilities which differed from those of the land or naval forces:

> *"Aerospace forces can deliver destructive firepower worldwide. The shock effect inherent in aerospace power is the product of an unequaled capacity to concentrate combat power in time and space. Aerospace forces provide commanders with the capability of selective or widespread destruction of an enemy's military capacity and the ability to conduct these actions rapidly against any enemy."*[500]

Here as well the authors imagined *"shock"* to be the *"effect"* of airstrikes similar as concentrated *"firepower"*. The AFM *1-1* from 1984 then stated how the Air Force thought about fighting the enemy:

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[497] AFM 1-1, 1979, p. 3-4.
[498] Ibid. p. 6-2.
[499] AFM 1-1, 1984, p. 2-2.
[500] Ibid. p. 2-3f.

> *"Strategic actions produce effects and influences which serve the needs of the overall war effort; tactical actions produce direct effects on the field of battle. […] An enemy's will and capabilities are the fundamental elements of his warfighting potential. An air commander has the capability to attack this potential in depth through strategic and tactical aerospace actions."*[501]

Without wanting to anticipate the following part about *Effects-Based Operations*, it has to be noted that the term *"effect"* had also been used in earlier documents. And, obviously, the *"depth"* was still around, one of those terms continuously referred to in the discourse on warfare by both the Army and Air Force.

The 1992 edition of AFM 1-1

The AFM *1-1* from 1992, written after the 1991 Gulf War, differed significantly from its predecessors as it was composed of two volumes, one covering doctrinal basics such as *The Nature of Aerospace Power* and even *Airmindedness* [sic!], the other consisting of essays about specific subjects such as *The Tenets of Aerospace Power* or *Capabilities*. The AFM dedicated its second chapter to the "*nature*" of Airpower as did its predecessors:

> *"Aerospace power can quickly concentrate on or above any point on the earth's surface. Aerospace power can exploit the principles of mass and maneuver simultaneously to a far greater extent than surface forces. […] Aerospace power can apply force against any facet of enemy power. Aerospace power can be brought to bear on an enemy's political, military, economic, and social structures simultaneously or separately."*[502]

Here differences to the 1984 edition were obvious: Airpower should now be brought to bear *"simultaneously"* instead of selectively and *broadly* against various elements of the enemy, no longer merely against its warfighting potential. The 1984 edition had provided more leeway, while the 1992 AFM formulated more *en detail* how Airpower had to be applied – while still the image of *Total War* remained, although in a new fashion. *"Mass"* and *"maneuver"* were as well mentioned, but in a different meaning than the Army had done so in the realm of *Active Defense* and *AirLand Battle* – not the masses of Soviet tanks but the massing of *"firepower*" and *"maneuver*" globally. Roles and missions of the *Air Force* were outlined as well, here the *strategic attack* and the *Battlefield Interdiction*:

[501] AFM 1-1, 1984, p. 2-11.
[502] AFM 1-1, 1992, p. 5f.

> *"The objective of the strategic attack mission is to destroy or neutralize an enemy's war-sustaining capabilities or will to fight. Interdiction delays, disrupts, diverts, or destroys an enemy's military potential before it can be brought to bear against friendly forces."*[503]

The *terminus point of main effort* loaned from Clausewitz, which grew in popularity after the Gulf War, was emphasized as well: *"The nature of the enemy defines the enemy's centers of gravity, how the enemy will fight, and thus the threat the enemy poses to the achievement of friendly objectives."*[504] In the subchapter *Aerospace Operational Art* apart from the traditional Air Force roles also its capabilities on the strategic level were referred to:

> *"Strategic attacks should produce effects well beyond the proportion of effort expended in their execution. Strategic attacks are carried out against an enemy's centers of gravity including command elements, war production assets, and supporting infrastructure (for example, energy, transportation, and communication assets). […] strategic attacks (conducted at the right time, place, and intensity) can, as a secondary effect, produce shock that demoralizes the enemy's leadership, military forces, and population, thus affecting the enemy's desire to wage war. […] Precision weaponry has greatly enhanced the efficiency of strategic attack. Being able to hit a precise target in the first attempt provides tremendous leverage. It also reduces the need for large expenditures of air power and reduces the risk of collateral damage."*[505]

Here as well the *"effect"* together with *"shock"* could be found, generated by the fielding of PGM in the *strategic attack*. However, *Stealth* was, remarkably, not mentioned. Airpower proponent Lambeth argues: *"Properly applied, the term strategic refers not to any particular delivery platform or target type, but rather to decisive operational effects."*[506] So apart from the term *"efficiency"* the *"effect"* was introduced on the tactical and operational level as well:

> *"Depending on a variety of factors, such as the nature of enemy forces and communications infrastructure, interdiction deep in the enemy's rear will have a broad operational or strategic-level effect but a delayed effect on surface combat. […] Air*

[503] AFM 1-1, 1992, p. 6f.
[504] Ibid. p. 9f.
[505] Ibid. p. 11f.
[506] Lambeth, The Transformation of American Air Power, p. 269f.

interdiction's ability to delay and disrupt may have a devastating impact on the enemy's plans and ability to respond to the actions of friendly forces."[507]

These advantages of the Air Force, especially the said *"efficiency"* and responsiveness, were utilized strongly by advocates in the military publications. In November 1992 Colonel Price T. Bingham discussed the new AFM *1-1* in the *Military Review*: *"The doctrine's guidance on strategic attacks is that they should produce effects well beyond the proportion of effort expended in their execution. These attacks should be persistent and coordinated so as to affect the enemy's capability and possibly his will to wage war."*[508] Here as well the term *"effect"*, together with the accentuation that it (the *"effect"*) went far beyond the actual deployment of the weapons used. Beneath that as well the *"will"* of the enemy was stressed again. But Airpower would even help to stop an enemy before ground operations would be necessary.

The Halt Phase

General Loh would in August 1993 tell an *Air War College* audience: "*Nothing can inject American military power as quickly, project as much power, hold as many enemy targets at risk, or halt an invasion with such little peril to American lives as airpower."*[509] Airpower proponents would later on resort to the idea of the *Halt Phase* when arguing in favor of theirs versus Landpower. In October 1993 the *Air Force Magazine* published an article based on the position paper *Long-Range Airpower: A Report of the AFA Advisory Group on Military Roles & Missions,* written by Generals Russell E. Dougherty, Charles A. Gabriel, Michael J. Dugan and Major General John R. Alison, every one of them being retired Air Force Generals:

"Armed conflicts vary, but the strategic heart of a theater air campaign usually will be deep attack and interdiction, used rapidly to deny enemy control of forces and events and reduce the enemy's assets and capabilities – which include forces, direct war-supporting materiel, essential war-supporting infrastructure, and lines of communication."[510]

[507] AFM 1-1, 1992, p. 12f.
[508] Bingham, Price T.: The Air Force's New Doctrine, in: Military Review, November 1992, p. 13-19, here p. 18.
[509] Loh, John M.: Draft Speech for General Loh, Air War College, Maxwell AFB, AL, 2 Aug 93, AFHRA, 01155261, p. 15.
[510] Alison, John R. / Dougherty, Russell E. / Dugan, Michael J. / Gabriel, Charles A.: Airpower at Center Stage, in: Air Force Magazine, October 1993.

Deep Attack was however an *"old" concept*, interpretable as an *AirLand Battle* relic, but understandable, as these were indeed retired Generals. Cohen and Keany conveyed in 1993 in the *Gulf War Air Power Survey* another term, better fitting to *"shock"*: *"In contrast to attacking the industrial production that in the past wars had provided the arms and munitions for forces in the field, the Desert Storm air campaign sought preeminently to disorganize the 'central nervous system' of the enemy regime."*[511] Whereas it has to be mentioned that Iraq in 1991 had only marginal industrial (and not strategic) infrastructure and therefore in this regard was not as vulnerable as Germany or Japan, for example, in the Second World War. On the other side, Airpower could concentrate on a small set of targets. Still the reach back to the *central nervous system* as body part is interesting, as it fits perfectly to the image of the *"heart"* of the enemy. Not only the *"heart"*, the body as a whole should now be *paralyzed*: and with *strategic paralysis*, a new conceptual idea got into the Airpower discourse. Major Jason B. Barlow, *Action Officer* in the *Operational Issues Group* of the *Deputy Chief of Staff, Plans and Operations* of the United States Air Force, wrote in 1993 about the idea of *strategic paralysis*:

> *"[…] strategic paralysis calls for precise aerial attacks against an enemy's most vital targets to paralyze his ability to continue the conflict and perhaps even break his will to do so. […] If strategic paralysis is to attain quick victory by applying technologically superior air power, planners must identify important, vulnerable targets. Such targets are readily found in a modern, industrialized society that relies on a fixed and vulnerable infrastructure."*[512]

But Barlow may be possibly mistaken; if he refers to Iraq, his definition of a modern society does not fit. At the same time, Barlow speaks of an idea which was not really new, but he sees, thanks to the PGM, the possibility to attack more *precisely*: *"Innovations as precision guided munitions, cruise missiles, global positioning systems, and stealthy airplanes now give air power the penetrative capability, persistence, and specialized weaponry necessary to directly attack an enemy's strategic centers with devastating accuracy."*[513] The *terminus paralysis* has to be emphasized especially relating to the *central nervous system* mentioned before. This *strategic paralysis* seems to be another *terminus* derived from the *strategic*

[511] Cohen/Keaney, Gulf War Air Power Survey, p. 236.
[512] Barlow, Jason B.: Strategic Paralysis: An Air Power Strategy for the Present, in: Airpower Journal, Winter 1993. Another article about this topic: Jablonsky, David: US Military Doctrine and the Revolution in Military Affairs, in: Parameters, Autumn 1994, p. 18-36.
[513] Barlow, An Air Power Strategy for the Present.

attack. Air Force General John M. Loh argued similarly*: "With the precision-guided weapons we have now and that we have under development, we have greater assurance of success with less collateral damage."*[514] The collateral damage meant a significant change in culture, closely related to the new image of war and world order dominant after the Fall of the Berlin Wall. The same *Symphony of Destruction,* which would have taken place in *AirLand Battle's* fight in Central Europe was no longer present.

More critical voices also discussed the propagated self-evidence of *strategic paralysis,* for example Captain John R. Glock, *Command Targeting Officer* at the *Air Combat Command*, in the *Airpower Journal* in autumn 1994 about *targeting*:

> *"Since the end of the Gulf War, many have written about the war's lessons. Most authors have addressed how precision weapons and stealth platforms have altered the nature of warfare. This masks another more critical lesson – the importance of targeting. Not only have most authors failed to address the significance of targeting, they have also failed to see how greater precision requires even greater and more detailed target analysis."*[515]

The *targeting*, the choice of targets in aerial warfare, was described as being the big problem of *strategic paralysis*. For sure the author had to argue this way in his function. Which targets had to be destroyed to have the desired *"effect"* against the enemy? As early as in the Second World War, planners had to look out for specific targets, for example German ball bearing production facilities, although these were arguably not attacked in a *"precision"* manner, by all means not in the *"precision"* manner envisioned in the 1990s. Therefore the 1992 AFM *1-1* indeed wrote about *targeting*:

> *"Precision weaponry requires precise intelligence and effective command and control. Achieving the full potential of aerospace power requires timely, relevant intelligence and sufficient command and control assets to permit commanders to exploit its speed, range, flexibility, and versatility."*[516]

But how to find the very specific targets to achieve strategic *"effect"* was not described. Not astonishingly, but nevertheless very prominent, it is obvious regarding the already analyzed AFM *1-1*, how the Air Force tried to stand out with its capabilities from other branches and saw itself as sole guarantor of certain victory. However, this applies to the Army, the Navy,

[514] Loh, John M.: Draft Speech for General Loh, Business Executives for National Security, Kansas City, Mo., July 7, 1994, AFHRA, 01155263, p. 8.
[515] Glock, John R.: The Evolution of Air Force Targeting, in: Airpower Journal, Fall 1994.
[516] AFM 1-1, 1992. p. 6.

and the Marine Corps as well, especially considering the budget cuts in the 1990s.[517] The Air Force not only did this with its inherent capabilities but in its language too. The enemy was destroyed using nuclear strikes against cities and troop concentrations in the 1970s and *paralyzed* in the 1990s with *precise* needle sticks using PGM. The Air Force thereby used new vocabulary and a new image of war in discussions throughout the discourse about warfare, how war would have to be conducted in the future. The goal was to *"mass"* as many *"effects"* as possible, but the term itself remains ambiguous. Yes, an *"effect"* is caused by weapons deployment, but this was and is intended after all. That Iraqi air defense did not activate its radars after being hit by multiple *High Speed Anti-Radiation Missile* (HARM)[518] attacks is quite understandable and not an indication of a new type of warfare. But the image of a war with surgical *"precision"* was further developed by the Air Force in the 1990s steadily, whereby *Desert Storm* was drawn on often.

2.4 The Army's search for a new enemy and the concept *Force XXI*

The 1993 FM 100-5

In 1993, two years after Operation *Desert Storm* and already seven years after the last edition, the Army published also a new version of its capstone *Field Manual 100-5 Operations*.[519] This edition is nearly exclusively composed of text; there are barely no pictures or graphs as were overly present in the *AirLand Battle* editions of FM *100-5*. At the beginning of the first chapter about the *Challenges for the US Army* the first FM *100-5* after the collapse of the USSR declared what had changed since the Fall of the Berlin Wall: *"Unlike the Cold War era when threats were measurable and, to some degree, predictable Army forces today are likely to encounter conditions of greater ambiguity and uncertainty. Doctrine must be able to accommodate this wider variety of threats."*[520] The insecurity regarding possible enemies is clearly recognizable. One concluded from it that doctrine had to incorporate these new threats too. Further the *Manual* stated about the modern battlefield:

[517] Defense spending actually fell in nominal terms, from $299.3 billion in 1990 to $294.5 billion in 2000. As a % of GDP, it fell from 5.2 to 3.0. Cf. Henderson, David: U.S. Federal Budget Cuts in the 1990s, The Untold Story that Needs to Be Told, Permanent Link, August 26, 2012, econlog.econlib.org, accessed 31/05/2015.
[518] The *AGM-88 HARM* guides itself into enemy air defense radars after being launched by an aircraft.
[519] Whereby the work on a draft was being done parallel to Operation *Desert Storm*. Cf. McDonough, James R.: Building the New FM 100-5 – Process and Product, in: Military Review, October 1991, p. 2-12.
[520] Headquarters, Department of the Army, Field Manual 100-5, Operations, Washington, DC, Department of the Army, 1993, p. 1-1.

"The components of battle can be joined in a limitless array of complex combinations. Army forces maneuver to bring firepower on the enemy, and bring firepower on the enemy in order to maneuver. […] Unconventional and conventional warfare can exist side by side, the one flowing to the other and back again. […] the commander does everything in his power to throw the enemy off balance, to strike the enemy with powerful blows from unexpected directions or dimensions, and to press the fight to the end."[521]

Here alterations compared to the predecessor in 1986 such as the *"simultaneity"* of *conventional* and *unconventional* warfare are recognizable, but the statement about the enemy's *"balance"* is rather well known. *"Firepower"* is spoken of with a similar meaning as earlier, being an *Enabler* for *"maneuver"*. Similar to its predecessor, the 1993 edition held formative elements of the *AirLand Battle* but without mentioning the doctrine itself, for example noting instead the *"depth"* of the area and the *"synchronization"*:

"Depth is the extension of operations in time, space, resources, and purpose. […] What is most important, however, is the fact that in any operation the Army must have the ability to gain information and influence operations throughout the depth of the battlefield. […] Synchronization is arranging activities in time and space to mass at the decisive point. […] It means that the desired effect is achieved by arranging activities in time and space to gain that effect. Synchronization includes, but is not limited to, the massed effects of combat power at the point of decision."[522]

Therefore, it is worthwhile to examine thoroughly the 1986 edition again: *"Depth is the extension of operations in space, time, and resources."*[523] Save for the *terminus purpose* the definition is exactly the same; the former seems to be a concession toward the feeling that the modern battlefield was being enlarged (and possibly towards the term *"effect"*, too) or being a new definition of victory. *"Synchronization"* hereby is, emphasized, being described as *"massed effects of combat power"* too, and as such uses the language of the Air Force (see chapter above). Furthermore, the desired *"effect"* had to be achieved. The 1993 edition as well emphasized other elements of *AirLand Battle*:

"Maneuver is the means of positioning forces at decisive points to achieve surprise, psychological shock, physical momentum, massed effects, and moral dominance.

[521] FM 100-5, Operations, 1993, p. 2-2 up to 2-3.
[522] Ibid. p. 2-7 up to 2-8.
[523] FM 100-5, Operations, 1986, p.16.

> *Successful maneuver requires anticipation and mental agility. […] Firepower provides destructive force; it is essential in defeating the enemy's ability and will to fight. It is the amount of fire that may be delivered by a position, unit, or weapon system. […] The extended range and precision of direct and indirect fire weapon systems, using laser-guided munitions and integrated target acquisition systems, make firepower more lethal than ever before."*[524]

Here again *"maneuver"* was utilized mostly as a geographical term, associated with the *en vogue* expressions *"effect"* and *"mass"*; *"firepower"* on the other hand was understood more as *"mass"* of destructive power, whereby the enemy's *"will*" represents the target. In the scope of *interdiction* the *strategic attack*, an element, which was not present in the last edition, as well came into the language use of the Army*:*

> *"Strategic attacks are carried out against an enemy's center of gravity, which may include national command elements, war production assets, and supporting infrastructure (for example, energy, transportation, and communications assets)."*[525]

In that case Operation *Desert Storm* seems to have had an influence, as the *strategic attack* was a cornerstone of the Air Force's argumentation after all, but no mention of the Air Force can be found in the FM. The adoption of these terms seems to support the thesis that the Air Force dominated doctrine development at this time. When the Army had already published its new FM *100-5* in June 1993, Major Wayne K. Maynard wrote about the *American Way of War* in the *Military Review* in November 1993:

> *"The promise of technology as a force multiplier in the substitution of firepower mass for manpower mass has finally been realized. […] The technology of 'the new American way of war' employs a systems approach that first improves the individual pieces, then ties them together in ways that further enhances the improvements."*[526]

Here, too, one can spot the reach back to *AirLand Battle* which was no longer present as a concept name in the new FM *100-5*. As well "*finally*": the materialization of the technological advantage in the form of the network of weapons and sensors (*Systems Approach*). This argumentation seems similar to the one used by the Airpower proponents. In the December

[524] FM 100-5, Operations, 1993, p. 2-10.
[525] Ibid. p. 2-18.
[526] Maynard, Wayne K.: The New American Way of War, in: Military Review, November 1993, p. 5-16, here p. 11f.

edition of the *Military Review* in 1993 an article can be found by General Frederick M. Franks Jr., then *Commanding General* TRADOC:

> *"Information age technologies are beginning to revolutionize the battlefield and even change the basic nature of warfare. We are approaching what some call 'Third-Wave' warfare or knowledge-based warfare. […] It goes beyond AirLand Battle to full-dimensional operations, with the Army at the center of the joint team addressing the fundamentals and inherent requirements for a force-projection army."*[527]

Knowledge or (intelligence) information should accordingly become one of the new buzz words of the *information age*. And *AirLand Battle* was substituted by Franks through the *terminus Full-dimensional Operations*. The Army at the same time was at the center of the *joint* team, obviously. Colonel James R. McDonough at the *School of Advanced Military Studies* argues similarly in the same edition:

> *"It is no longer just AirLand Battle, a doctrine steeped in the Cold War assumptions of a forward defense […]; it is now a doctrine of full-dimensional operations for a force-projection Army whose units will normally act in conjunction with air, naval and space assets and seldom be involved in operations outside the United States separate from the forces of allied nations. The view of the new doctrine is not only of conventional battle, but of operations across the spectrum of conflict."*[528]

This enlargement of the battlefield by the information domain to *Full-dimensional* (including the so-called *Low-Intensity Conflict*) was then as well included in the concept *Force XXI Operations* in 1994, written at TRADOC.

Force XXI Operations versus Low-Intensity Conflict

The concept postulated the substitution of the *industrial age* for the *information age* in which, thanks to modern communication technology, a near real-time transmission of information became possible. TRADOC *Commanding General* William W. Hartzog stated in 1996 in front of the *Senate Armed Services Committee*: *"We know that our future force will operate in an expanded battlespace. We will have to attain success across the width, depth,*

[527] Franks Jr., Frederick M.: Full-Dimensional Operations: A Doctrine for an Era of Change, in: Military Review, December 1993, p.5-10, here p. 6f.
[528] McDonough, James R.: Versatility: The Fifth Tenet, in: Military Review, December 1993, p. 11-14, here p. 12.

height, and electro-magnetic dimensions as well as the human dimension."[529] Courtesy of other now mature technologies such as *Stealth*, PGM and satellites a modern, clean war without any casualties should be fought using new aerial and space means with no collateral damage (see above).[530] The concept *Force XXI* drew the following image of future conflict:

> *"Future conflicts may involve simultaneous operations against foes of varying capabilities. […] Preindustrial nations and most nonnation [sic!] groups cannot, or will not, invest in the weapons and technology necessary to keep pace with the best militaries in their regions. […] when faced with a large, technologically advanced army, they are likely to attempt to redefine the terms of conflict and pursue their aims through terrorism, insurgency, or partisan warfare."*[531]

What is interesting is the annotation that future enemies could possibly shift to *unconventional* means, as Andrew Krepinevich had some years before already outlined and General Powell stipulated in an article in 1993: *"We must be ready to meet whatever threats to our interests may arise. We must concentrate on the capabilities of our Armed Forces to meet a host of threats and not on a single threat."*[532] However the authors of *Force XXI* imagined the combating of these new forms of threats to be *conventional*, such as the Army had already tried in Vietnam.[533] *Force XXI* therefore was a series of experiments using virtual simulation methods and software to simulate new unit designs, for example the *Force XXI division*. The real *Force XXI* was then planned to emerge between 2000 and 2010. It was to be largely based on technology and knowledge. A paper written at the *Army-Air Force Center for Low Intensity Conflict* (A-AF CLIC) therefore criticized *Force XXI*:

> *"The force XXI army alluded to in the document [TRADOC Pamphlet 525-5 Force XXI Operations] focuses on themes of high-tech, higher leader to led ratios, greater situational awareness, and greater lethality. This is exactly the type of force required to defeat the most lethal threat posited for the next century: a high technology, nation-*

[529] Headquarters, Department of the Army: Statement by William W. Hartzog, Commanding General, United States Army Training and Doctrine Command before the AirLand Forces Subcommittee, Senate Armed Services Committee, United States Senate, second session, 104th Congress, 29 March 1996, p. 6.
[530] Lewis, The American Culture of War, p. 386f.
[531] Headquarters, United States Army Training & Doctrine Command: Force XXI Operations TRADOC Pamphlet 525 5A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty-First Century, 1 August 1994, here p. 2-5.
[532] Powell, Colin L.: U.S. Forces: Challenges ahead, in: Foreign Affairs, Volume 71 No.5, Winter 1992/93, p. 32-45, here p. 41.
[533] Cf. hereby Krepinevich, The Army and Vietnam, p. 213: *„The Army's approach to the use of herbicides and defoliants fit neatly into its concept. It represented an attempt at effecting a technological fix to a problem that was not amenable to such a solution."*

state army. This type of force probably represents the least likely employment of US forces in the 21st century however."[534]

But *high-tech* as well as more situational awareness and a higher leader-to-led-ratio (more officers and non-commissioned officers in relation to soldiers) would nonetheless fit even into a LIC environment. A-AF CLICs mission was *"to enhance the capabilities of the Army and the Air Force to address the exigencies of military operations other than war (MOOTW) with understanding, competence, and effectiveness."*[535] A working paper in 1995 stated that *"The army must prepare for military operations other than war. Forces for MOOTW cannot be tailored from a mechanized Force XXI unit on an as needed basis without dire consequences."*[536] But In 1995, the Army terminated its participation in the CLIC arguing it was duplicating MOOTW related work the Army was doing in other organizations elsewhere.[537] As foreign policy specialist David Fitzgerald writes: *"Although the soon-to-be-closed Center for Low Intensity Conflict organized a 1995 conference on counterinsurgency because they felt that the Army's counterinsurgency doctrine was badly outdated […] others saw Somalia as a reason not to relearn counterinsurgency."*[538] The commitment to *decisive* victory and quick resolution of conflict did not only manifest itself in the United States Army's view of war (and therefore in the *Way of Warfare* the *Manuals* propagated) but also in the underlying definition, what was not war: *"strikes and raids (such as the 1983 intervention in Grenada), peacekeeping, peace enforcement, antiterrorism, and support for insurgency and counterinsurgency"* were all not part of the discourse on war, but rather *"operations other than war".*[539] And even as the Army now seemingly understood the importance of LIC and MOOTW, there was no significant reorganization of United States Army units or material to reflect this. As demonstrated with *Force XXI*, the Army focused almost exclusively on *conventional* forces.[540] The so-called *Clinton Doctrine* elevated MOOTW as a mission set for which the Army would have to prepare, but the Army's focused

[534] Army-Air Force Center for Low Intensity Conflict: Working Paper, Critical Analysis of TRADOC Pamphlet 525-5 Force XXI Operations as it applies to Military Operations Other Than War (MOOTW), Langley AFB, VA, September 22, 1995, AFHRA, K170.2201-7, p. 189f.
[535] Crouch, Thomas W.: Historical Report, Army-Air Force Center for Low Intensity Conflict (A-AF CLIC), 1 January - 30 June 1995, Langley AFB, Virginia, 1995, AFHRA, K170.2201-7 V. 1, p. v.
[536] Working Paper, Critical Analysis of TRADOC Pamphlet 525-5 Force XXI Operations, p. 192.
[537] Crouch, Historical Report, A-AF CLIC, 1 January - 30 June 1995, p. 48.
[538] Fitzgerald, Learning to forget, p. 103.
[539] Ibid. p. 94.
[540] Ibid. p. 97.

still on the two MRC (*Major Regional Conflict*)[541] principles as stipulated in the first part of the recommendations made by the 1993 Bottom-Up Review conducted by *Secretary of Defense* Les Aspin.[542] Not only was the Army, the Air Force was more focused on the MRC. General Loh argued in 1994: *"While we are comfortable with participating in peacekeeping and peace enforcing as we stand today, I will not be happy until we are satisfied that we can handle the two MRC scenario just as comfortably."*[543] Loh described then accordingly the greatest threat to the United States at this time being *"the possibility of a regional conflict escalating into a full-blown war or the new democracies and reform movements of the former Warsaw Pact countries collapsing into chaos."*[544] It seemed logical then, that the Gulf War would be the *"measuring stick"* even though the United States did not have the kind of force structure available in the 1990s as it did in 1991.[545] But there were other opinions nonetheless. Army historian John F. Guilmartin wrote in a 1994 *Army War College* study:

> *"For the foreseeable future, the United States is more likely to be engaged in relatively small-scale regional conflicts where leadership, cultural symbols and political motivation are key factors than in major conflicts where we can target the industrial base. In the past, the United States has not always been spectacularly successful in evaluating such intangible, human factors. It badly needs to improve its intelligence and analytical capabilities."*[546]

Possibly having the 1993 intervention in Somalia or other smaller scale military operations at the back of his mind, Guilmartin showed the exact opposite of the technology-centered way in which the Army was heading. And Joe W. Trimble had, in a study two years earlier, written similarly: *"The probability of being involved in a global nuclear war or high intensity protracted conventional war is rapidly diminishing. The most likely scenario for future battles*

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[541] Also named *Major Theater War (MTW)*. This concept of William Jefferson „Bill" Clinton's administration wanted to have the United States Army to be capable of fighting two wars *simultaneously*. This guideline as well led to the *Halt Phase* idea in the Air Force; thanks to the former the (remaining) ground troops could concentrate on one conflict whereas the Air Force would hold the „enemy" at bay in the other *Theater of War*. Cf. hereby also Tilford, Halt Phase Strategy, p. 5.

[542] Fitzgerald, Learning to forget, p. 32.

[543] Loh, John M.: „Investment Strategies for Airpower's Future: Balancing Technology and Affordability", Keynote Speech by General John M. Loh, Commander, Air Combat Command, Air Force Association Symposium, Orlando, Florida, February 17, 1994, AFHRA, 01155262, p. 14f.

[544] Loh, John M.: Draft Speech for General Loh, Army Command and Staff College, FT Leavenworth KS, 12 Mar 94, AFHRA, 01155262, p. 3.

[545] Ibid. p. 5.

[546] Guilmartin Jr., John F.: Technology and Strategy: What are the Limits?, in: Guilmartin, Jr., John F. / Howard, Michael: Two Historians in Technology And War, Strategic Studies Institute, United States Army War College, Carlisle Barracks, PA July 20, 1994, p. 7-30, here p. 23.

are regional conflicts fought at the low to mid intensity levels."[547] But the official TRADOC nonetheless saw its new FM *100-5* 1993 edition as fitting to the challenges the United States Army would face in the near future:

> *"The new version of FM 100-5 is the most consultative version of doctrine ever written by the Army. […] The challenge for the Army and its new doctrine is one of providing the intellectual basis for an Army that will always operate as a part of a joint and interagency effort – and often a coalition effort."*[548]

Indeed, the 1993 edition had been discussed and rearranged many times and been circulated extensively before being published. But that must not be seen in all cases as a sign of quality. In retrospect, critics argue otherwise. Fitzgerald for example states in his monograph on COIN that *"this [1993] edition largely marked an evolution from the AirLand Battle concept, rather than a revolutionary approach to reflect the similarly revolutionary change in the international environment."*[549] Kretchik argues that MOOTW operations were considered unique in the 1993 edition of FM 100-5. Because they were not war, *"not all of the principles of war applied"*, did the *Manual* suggest.[550] The *Manual* clearly stated at the beginning of the OOTW chapter: *"The Army's primary focus is to fight and win the nation's wars."*[551] The chapter thereafter comprises different principles about OOTW but consistently argues that *"In preparing to fight the nation's wars, the Army develops the leadership, organizations, equipment, discipline, and skills for a variety of operations other than war. Doctrine for war complements that for operations other than war."*[552] Nonetheless, Operation *Uphold Democracy*, which was conducted in 1994 and 1995 in Haiti, *"illustrated that while the 1993 FM 100-5 listed MOOTW principles that must be considered, the chapter lacked sufficient detail to be more than just a general overview."*[553] The *Manual* had even devoted only one single paragraph to post-conflict considerations."[554] Therefore, Kretchik argues that the limited guidelines for conducting MOOTW in the 1993 edition of FM 100-5

[547] Trimble, Joe W.: Targeting on the ALB-F Battlefield – An Individual Study Project, United States Army War College, Carlisle, PA, 1992, p. 4.
[548] United States Army Training and Doctrine Command: Where Tomorrow's Victories Begin, US Army Training and Doctrine Command, July 1 1993, p. 5.
[549] Fitzgerald, Learning to forget, p. 93.
[550] Kretchik, U.S. Army Doctrine, p. 231.
[551] FM 100-5, Operations, 1993, p. 13-0.
[552] Ibid.
[553] Kretchik, U.S. Army Doctrine, p. 238f.
[554] Ibid.p. 241.

demonstrated that the Army understood *conventional* war better than MOOTW.[555] Linn similarly writes how the few exceptions to the 1993 *Manual's* intense focus on the *conventional* battlefield and the few sentences devoted to *counterinsurgency* and *peacekeeping* would provide little preparation for Somalia – much less Iraq and Afghanistan at the beginning of the 21st century.[556]

New terms and termini in warfare?

The concept *Force XXI* did show partially the impetus that new technologies would have on the conduct of war but not the grave consequences it would have if one predominantly focused on *conventional* operations. The RMA idea would forestall any possible adverse tactics by the United States' enemies, but rather focus on an idealized *Way of War*: *"Force XXI operations will be non-linear – devoid of rigid organization of unit or function – decentralized and simultaneous. Operations will be characterized by faster tempo, precision, and a common view of the battlefield enabled by the bow wave of information technologies."*[557] The new *terminus* to name the battlefield was *battlespace*, consequential to the *information age*:

> *"Looking at conventional and high-intensity warfare, recent military-technical developments point toward an increase in the depth, breadth, and height of the battlefield. This extension of the battlespace with fewer soldiers in it is an evolutionary trend in the conduct of war. […] formations will be more dispersed, contributing to the empty battlefield. Commanders will seek to avoid linear actions, close-in combat, stable fronts, and long operational pauses. Recent U.S. operations show that deep battle has advanced beyond the concept of attacking the enemy's follow-on forces in a sequenced approach to shape the close battle to one of simultaneous attack to stun, then rapidly defeat the enemy."*[558]

The *simultaneous* in this case was the *terminus* for the *"synchronization"* in the *AirLand Battle*. The *"stun"* resembles the Air Force's *paralysis*. The idea of the "*empty battlefield*", on which only few but powerful units would *"maneuver"*, stands out too; actually an *ideal*

[555] Kretchik, U.S. Army Doctrine, p. 283.
[556] Linn, Brian McAllister: The U.S. Armed Forces' View of War, in: Kennedy, David M. (ed.): The modern American military, Oxford, 2013, p. 41-58, here p. 51.
[557] Headquarters, Department of the Army: Statement by William W. Hartzog, Commanding General, United States Army Training and Doctrine Command before the AirLand Forces Subcommittee, Senate Armed Services Committee, United States Senate, second session, 104th Congress, 29 March 1996, p. 6.
[558] Force XXI Operations, p. 2-9.

conception. *Termini* such as *Full Dimensional*, *Knowledge-based Warfare*, *battlespace* or *Force Projection* coined the discussion about an Army for the 21st century (*Force XXI* being an appropriate name). General Vuono had as early as in 1991, shortly after the conclusion of Desert Storm, coined the *projection* of forces: *"We've got to be able to project power swiftly and massively to trouble spots around the world to meet whatever the requirements are to execute whatever the objectives the National Command Authority wants us to."*[559] The battlefield as well as the enemy could not be precisely circumscribed in the early 1990s. Therefore the whole spectrum, the *Full Spectrum*[560] of scenarios had to be covered. But nevertheless, the discourse on warfare allowed critics. In the *Parameters* in summer 1995 William S. Lind, director of the *Institute for Cultural Conservatism*, an organization which wanted to reinvigorate American culture, discussed the new doctrine critically:

> *"We can eliminate hostile governments in some developing countries – seize their leaders, take control of their institutions, and turn the levers of power over to their opponents. We can destroy the regular armed forces in those countries, if our own forces can move fast enough to encircle them before they disperse. […] But we cannot carry on a prolonged counterinsurgency war."*[561]

Lind suggested that the political pressure would become too great to bear as soldiers are killed. Obviously there were indeed analysts criticizing the concept of having a technological answer to all possible problems. And, *"speed"* again seems to be a hallmark of the Army's forces. Other critical voices discussed buzzwords such *as center of gravity*. In the same *Parameters* edition Lieutenant Colonel David A. Fastabend from the staff of the *Commander-in-Chief, Pacific Command (*CINCPAC*)* wrote:

> *"If war will be characterized by simultaneous operations, redundant processes, extraordinary situational awareness, and a reduced efficacy of hierarchical organizations, then it may be less important to encourage planners to look for 'the hub of all power and movement.' The Army's fascination with the center of gravity is out of balance."*

[559] Vuono, Carl E.: General Carl E. Vuono, Chief of Staff of the Army, Armor Conference, Fort Knox, Kentucky, 8 May 1991, AHEC, The Carl E. Vuono Papers, Box 37,9th May 1991 - 11th June 1991, Speeches and Remarks, p. 10.

[560] *Full Spectrum* would require the United States armed forces to be more networked. The *terminus* NCW was then coined mainly by the Navy.

[561] Lind, William S.: An Operational Doctrine for Intervention, in: Parameters, Summer 1995 p. 128-133.

Here also was a critical voice against the idea of searching for *Centers of Gravity* and attacking them; this was indeed contrary to the trend and image of war adopted by the Air Force. If the battlefield grew increasingly bigger and unit leadership was to be decentralized, why try to find the center? Or was there even one to be found? Fastabend identified more flaws in the logic of the 1993 edition FM *100-5*: *"FM 100-5/1993 never considers that operational pauses and reductions in tempo give the enemy the opportunity to respond and reform his defenses. […] In the face of a motivated, determined, well-equipped enemy, slowness kills more surely than speed."*[562] Fastabend denounced the image of the easily predictable enemy who would not show initiative (and reverts even to *Desert Storm*). And the FM stated that *"Victory is the objective, no matter the mission. Nothing short of victory is acceptable."*[563] And the Army stated that it would operate to *"concentrate forces and execute with speed, audacity, and violence, continually seeking soft spots."*[564] But the more critical articles by Lind and Fastabend seem to be a warning to the military elite. Obviously United States interventionism in the 1990s brought discontent regarding the FM *100-5* edition of 1993 and its seemingly updated but nevertheless outdated doctrine. The imagination of an enemy waiting for its own destruction (similarly to the Iraqi Army in 1991 which did not really act at all and did not appreciate the operational tempo of the coalition)[565] was called in question. The discussion somehow swung between criticizing the outdated doctrine and the question of a new doctrine altogether. The paper *Army Vision 2010* from November 1996, which accompanied the *Joint Vision 2010*[566] of the Department of Defense, postulated:

> *"The significance of land power as the force of decision will continue to rise for several reasons. […] most future operations will occur on the lower and middle portions of the continuum of military operations ranging from disaster relief to global war, where land forces provide unique and essential capabilities, the most options, and the most useful tools. "*[567]

[562] Fastabend, David A.: Checking the Doctrinal Map: Can We Get There from Here with FM 100-5?, in: Parameters, Summer 1995,p. 37-46, here p. 41.
[563] FM 100-5, Operations, 1993, p. 2-6.
[564] Ibid.
[565] Cf. the respective chapters in: Pollack, Arabs at War, p. 256-264.
[566] Chairman of the Joint Chiefs of Staff: Joint Vision 2010, Pentagon, Washington, DC, 1996.
[567] Headquarters, Department of the Army: Army Vision 2010, November 1996, p. 5f.

In this case the authors seemed to be willing to profit from the hype about the *Low-Intensity Conflict* concept. Who else than the Army should be capable of operating in this new type of operating environment? However, the term *"decision"* matches a *conventional* image of war more closely. *Decisive* seemed to be another one of the new buzzwords derived from RMA-thinking. In 1993, General Colin Powell had warned: *"Decisive means and results are always to be preferred, even if they are not always possible. We should always be skeptical when so-called experts suggest that all a particular crisis calls for is a little surgical bombing or a limited attack."*[568] And then the authors of *Army Vision 2010* wrote the *Patterns of Operation* of the Army: *"Project the Force, Protect the Force, Shape the Battlespace, Decisive Operations, Sustain the Force, and Gain Information Dominance."*[569] Whereas *project* really meant that only the being of a force should deter. And as the *battlespace* could be formed as well, operations could be *decisive*:

> *"Decisive operations force the enemy to decide to give in to our will. They are inextricably linked to shaping the battlespace and precision engagement in that decisive operations are vastly enhanced by the precision fires, precise information, and precise detection capabilities inherent to precision engagement."*[570]

To be mentioned especially are *termini* such as *Dominant Maneuver*, which give a hint to the military's self-image and its concept of war as well as the belief in technology[571], which should provide the United States Armed Forces with a dominance on the battlefield:

> *"Strategic maneuver equates to the Army's requirement to project the force. It initiates the process of creating an image in the mind of an adversary of an unstoppable force of unequaled competence. […] Operational maneuver, the other element of dominant maneuver, equates to decisive operations."*[572]

"Maneuver" in this case was *strategic*, as movement and *projection* of military power through large distances was incorporated.

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[568] Powell, Colin L.: U.S. Forces: Challenges ahead, in: Foreign Affairs, Volume 71 No.5, Winter 1992/93, p. 32-45, here p. 40.
[569] Army Vision 2010, p. 10.
[570] Army Vision 2010, p. 11ff.
[571] Krepinevich located in his Vietnam War assessment a tendency by the Army to have a very specific concept of war. Things which do not fit into this concept are either made fitting or excluded from it, like the already mentioned *unconventionally* fighting enemies. Cf. Krepinevich, The Army and Vietnam, p. 5.
[572] Army Vision 2010, p. 11ff.

The Army After Next

In 1996 the project *Army After Next* was initiated, about which in 1997 a report was submitted to the *Chief of Staff* of the United States Army, introducing:

> *"The union of knowledge and speed will do more than increase linear velocity; it will also quicken a commander's ability to divine and exploit an enemy's weaknesses [sic] and to offset the influence of chance and uncertainty."*[573]

Knowledge or *"information"* should enable *"speed"* and therefore success in battle. And the authors wrote, regarding *"maneuver"*:

> *"Knowledge dominance on the battlefield will allow a dramatic increase in the speed of maneuver […] Blue forces employed an air-ground tactical method of maneuver that combined lighter surface fighting vehicles with advanced airframes capable of transporting them at speeds as great as 200 kilometers per hour over distances in excess of 1500 kilometers."*[574]

So the *Army after Next* should be able to move rapidly with light and air-maneuverable units on the battlefield, supported by *precise* fires. Lightness and *air mobility* here facilitated speed too. In the March-April edition of the *Military Review* in 1997 Major Charles A. Charnot, *staff officer at the 1st Battalion, 25th Attack Helicopter Regiment*, wrote about the *Air Mech Strike Concept*:

> *"The Air Mech Strike concept charts new ground in airmechanization by departing from the force design assumption that the direct-fire fight is the ultimate way to defeat the enemy. […] Heavy mechanized units will be tracked at great distances and destroyed by indirect precision munitions attacks (PMAs), rendering large-scale direct-fire fights between massed armored formations obsolete."*[575]

In this case the author seemed to reject the concept of *"mass"* as such, similar to the Air Force. At the same time, he brought up arguments favoring the attack helicopter, while arguing against heavy mechanized units. Similar arguments had already been brought up in the scope of the *AirLand Battle Future* concept. Then in the *Military Review*, September-

[573] United States Army: Knowledge, Speed – The Annual Report on The Army After Next Project to the Chief of Staff of the Army, July 1997, here p. 2f.
[574] The Army After Next, p. 13.
[575] Jarnot, Charles A.: Air Mech Strike: Revolution in Maneuver Warfare, in: Military Review, March-April 1997, p. 79-86.

October edition in 1997, Major Antulio J. Echevarria II, member of the *Army after Next* project team, wrote detailed about the battlefield:

> *"Military operations can now occur simultaneously and continuously throughout the extended battlespace. Consequently, traditional, linear battlespace divisions such as close, deep and rear place artificial and unnecessary constraints on combat power application. "*[576]

Again obviously visible is the emphasis on the enlargement of the battlefield to a *battlespace* and *"simultaneity"* visible and the missing term *"depth"*. In the spring edition of *Parameters* in 1998 Colonel Robert B. Kilbrew, back then initiator and head of the project *Army after Next*, wrote about the *Wargames* conducted by the Army:

> *"Two overriding factors support 'speed' as the second dominant characteristic of the future force. First, a force that can deploy rapidly at strategic ranges, maneuver theater-wide against an enemy center of gravity, and take down tactical objectives on the battlefield should be capable of forcing decisions quickly and at low cost to the United States. […] Second, assuming the inevitable spread of 'smart' weapons, speed will be necessary for survival under precision attack, at whatever ranges are then possible."*[577]

Kilbrew utilized a collection of *termini* and terms. He interprets *"maneuver"* as being *Theater-Wide* or even *strategic*; *"speed"* as the dominant characteristic of the operation itself and the destruction of the enemy. *Dominance* in the area of *"information"* as well as regarding the *"speed"* should secure success for military operations. *Termini* such as *Dominant Maneuver* or *battlespace* named terms such as *"maneuver"* or battlefield. Interestingly, Kilbrew (and the Army as well) copied the Air Force's idea of hitting enemy targets / objectives *"tactically"* over *"strategic"* distances.

Concluding this chapter, it seems necessary to note that despite the Army incorporating the *Low-Intensity Conflict*, a *conventional* image of war was predominant which prospered further, somehow detached from reality. Kretchik writes how the Army leadership indeed struggled to find both relevancy and a credible threat at the end of the Cold War.[578] Although the Army planned for and conducted different MOOTW throughout the 1990s, this mission type and the corresponding mindset was treated only as a subset of and therefore

[576] Echevarria II, Antulio J.: Optimizing Chaos on the Nonlinear Battlefield, in: Military Review, September-October 1997, p. 26-31.
[577] Killebrew, Robert B.: Learning from Wargames: A Status Report, in: Parameters, Spring 1998, p. 122-135.
[578] Kretchik, U.S. Army Doctrine, p. 282f.

distraction from preparing for "*real*" war.[579] Fitzgerald argues that the services least likely to have a significant role in MOOTW environments – the United States Navy and Air Force – somehow assisted the Army in justifying and developing a force based on their preferred, but narrow, vision of the future of war. Disconcertingly, (or deliberately) they helped ensure that the Army would be less adaptable to the *operational environments* and adversaries it would continue to face throughout the 1990s and at the very beginning of the twenty-first century. The increasing usage of *termini* such as *dominance* and *battlespace* in the realm of the discourse on *warfare* or "*modern war"* supposed an *operational environment* where the Army would be the *dominant* force, an *operational environment* remarkably different from that in which the Army was increasingly being asked to operate.[580] Obviously the Army leadership saw large parts of its existing and planned force structure being more and more challenged by the new concepts of operations being promoted mostly by the Air Force which sought to make the most of technology to find, fix, and engage targets in near-real time from standoff distances. That, in turn, spurred the Army to compete more in the indirect-fire area, traditionally an acknowledged preserve of fixed-wing aviation (shown above in the *AirLand Battle* discussions), by seeking to enhance its primary reliance on direct-fire weapons through the acquisition of accurate indirect fire systems like extended-range ATACMS and by *stealthy*, deep-attack helicopters that promised to cost as much as an *F-16*, the *RAH-66 Comanche*.[581]

2.5 Warden, the *System-of-Systems-Analysis* and the *Global Attack*

This chapter will show how the Air Force, or some of its proponents, respectively, further developed their image of war during the second part of the 1990s and how the 1999 aerial campaign against Serbia, *Allied Force*, was discussed accordingly.

Warden and the System-of-Systems-Analysis

The aerial campaign against Iraq in 1991 had indeed shown facets of a new type of war. On one side, the Iraqi Army had been attrited; on the other side its *Command and Control* capabilities (C2) were hampered, as was shown in an above chapter. Despite that, the ideas of Airpower proponents such as General Glosson or Colonel Warden, who would have

[579] Fitzgerald, Learning to forget, p. 33.
[580] Ibid. p. 37.
[581] Lambeth, The Transformation of American Air Power, p. 281.

preferred to have no ground war at all were not entirely implemented.[582] Some argue that Warden "*reverse engineered*" or retroactively rewrote the Gulf War to vindicate his earlier theories. Warden saw *Operation Desert Storm* as a blueprint for how the future enemy and war would look:

> *"The most likely kinds of wars that we will fight will be the kinds that are intended to stop offensive behavior on the part of a country that is working its own agenda, that is trying to steal something from us or from some other country, or in some way or other is doing something that is entirely unacceptable to us, not because we are the world policeman, but because it interferes with very legitimate US interests. These wars that we conduct to stop offensive behavior on the part of other states will be characterized by sharp, decisive action on our part, designed to reach a conclusion as quickly as possible, and to do so with few or no US casualties […] Next, we will certainly be conducting some covert or some quasi combat operations against terrorist or drug traffickers. We will also be doing things that are not combat but in the coming world may have significance approaching that of combat operations."*[583]

Few casualties and *decisive* action are both statements which were and are still graciously used by Airpower-proponents in their discourse. But interestingly, Warden saw the possibility of conflicts involving non-state actors, but seemingly *conventional* combat operations would be conducted in that case as well. It was Warden, then, who conceived the idea of *the enemy as a system* in an article in the *Airpower Journal* in spring 1995 and therewith carried his modern vision of aerial warfare to extremes. Hereby the *System of Systems* as a network of sensors and weapons and Warden's *enemy as a system* have to be differentiated. *System of Systems* was a buzz word in the *Transformation* dialogue of the time. But Warden wanted to discern an enemy's *system*. In the 1995 article Warden wrote about a *Five Ring* model which he foresaw adaptable for any type of enemy:

> *"If we are going to think strategically, we must think of the enemy as a system composed of numerous subsystems. Thinking of the enemy in terms of a system gives us a much better chance of forcing or inducing him to make our objectives his objectives and doing so with minimum effort and the maximum chance of success."* [584]

[582] Buley, The New American Way of War, p. 79.
[583] Warden III, John A.: The Future of Air Power, in: Col Warden Papers, AFHRA, NA-526, p. 4.
[584] Warden III, John A.: The enemy as a system, in: Airpower Journal, Spring 1995.

Warden named leadership, organic essentials, infrastructure, population and fielded military forces to be the five parts of this *system*. Analogous to the human corpse, the *"brain"* would be the center: *"At the very center – the personal strategic center – is the brain."* [585] The problem in that case would be the identification of the *centers of gravity*:

> *"Every state and every military organization will have a unique set of centers of gravity or vulnerabilities. […] The most important requirement of strategic attack is understanding the enemy system. The system understood, the next problem becomes one of how to reduce it to the desired level or to paralyze it if required."*[586]

Warden carried the image of a (de)human(ized) corpse to extremes; his statements fueled the discussions already going on in the military publications. Not a boxer sporting *"balance"*, but a corpse with "*pressure points*" (*points of main effort*), a *nervous system*, "*heart*" and *"brain"* laying on the dissecting table represented the enemy, after it was earlier *paralyzed*. And the search for *points of main effort* was equal to the search for weaknesses:

> *"Technology has made possible the near simultaneous attack on every strategic – and operational – level vulnerability of the enemy. This parallel process of war, as opposed to the old serial form, makes very real what Clausewitz called the ideal form of war, the striking of blows everywhere at the same time."*[587]

Ultimately, it was now finally possible to attack the enemy *parallel* on different levels. And Warden argued for Airpower as the perfect means to facilitate attacks on *Centers of Gravity*:

> *"As you think through this concept of centers of gravity it strikes you how important it is to be able to attack these centers of gravity as directly as possible. Then it concomitantly strikes you that air power in one form or another will frequently give you the best, most effective way to get to these enemy centers of gravity. Therefore, we believe that air power is going to be far more important than it has ever been."*[588]

General Fogleman, then *Chief of Staff of the United States Air Force*, described a very similar imagination in the April edition of the *Air Force Magazine* in 1996:

> *"While these may vary as a function of the enemy, these centers generally include things like the leadership elite, command and control, internal security mechanisms, war*

[585] Warden, The enemy as a system.
[586] Ibid.
[587] Ibid.
[588] Warden, The Future of Air Power, p. 6.

production capability, and one, some, or all branches of the armed forces – in short, it's the enemy ability to effectively wage war."[589]

The terms ("*effectiveness*") and *termini* (*center of gravity*) used were, in the essence, the same as Warden's. The editor-in-chief of the *Air Force Magazine*, John T. Correl, wrote about the *Deep Strike* (*Deep Attack* as from the concept of *AirLand Battle*) in 1996 and adopted *termini* from Warden such as *parallel attack* on *Centers of Gravity*:

"The dominant requirement for deep attack in a major regional conflict is to strike the enemy's centers of gravity and to do it rapidly, accurately, and with intensity. […] The objective is to attack these centers of gravity 'in parallel' – all of them at once – rather than serially."[590]

But the new language, which the Air Force was using, did not please everyone. In the summer edition of the *Airpower Journal* in 1996 Colonel Richard Szafranksi, *Chair of National Military Strategy* at the *Air War College*, discussed the problems the Air Force faced, when it had to demonstrate the worth of its means considering the budget cuts hitting all branches: *"The Air Force can talk of the 'enemy as a system' or of striking plural strategic 'centers of gravity', but few people in the Air Force know precisely what those phrases mean."*[591] Szafranski hereby points to the problem of *targeting* which even Warden had not been able to clarify properly.

Global attack

The Air Force paper *Global Engagement* in 1996, which represented kind of an Air Force answer to the *Joint Vision 2010* published by the Defense Department, did again mention the *center of gravity* in a passage about *"modern war"*:

"The Air Force also recognizes the emerging reality that in the 21st Century it will be possible to find, fix or track and target anything that moves on the surface of the earth. Global Engagement: A Vision for the 21st Century Air Force is based on a new understanding of what air and space power mean to the nation – the ability to hit an adversary's strategic centers of gravity directly as well as prevail at the operational and tactical levels of warfare."[592]

[589] Cited in Correll, John T.: The New American Way of War, in: Air Force Magazine, April 1996.
[590] Correll, John T.: Deep Strike, in: Air Force Magazine, April 1996.
[591] Szafranski, Richard: Interservice rivalry in action, in: Airpower Journal, Summer 1996, p. 48-59, here p. 56.
[592] Department of the Air Force: Global Engagement: A Vision for the 21st Century Air Force, Washington, D.C., 1996.

This document contains a lot of confident statements and visions regarding future war, even though not all can be cited here. It contains as well the *terminus center of gravity*. Air Force General Ronald R. Fogleman, *Chief of Staff of the Air force* from 1994 to 1997, promoted Airpower in front of an Air Force Association audience in 1996: *"Our vision is based on the premise that only air and space power provide the nation with the ability to find and hit strategic centers of gravity directly, […] it is the combination of speed, range, precision and lethality that makes airpower such a powerful force."*[593] And especially important was the global aspect which the Air Force had already argued with concerning the *B-2 stealth* bomber: *"A core competency we've added is one we elected to call Global Attack. […] The primary aspect of Global Attack is the ability of the Air Force to find and attack targets anywhere on the globe using the synergy generated by air and space assets to operate at the strategic level of war."*[594] A summary for AFDD 2, Airpower Operations stated how

> *"Employment options for air and space forces are possible within hours rather than in days or weeks. Air and space forces operate daily at global ranges, from aircraft transiting continents to spacecraft circling the globe. […] Air and space forces, from their elevated vantage points, furnish a perspective that provides commanders a full dimensional picture of the theater of operations."*[595]

The Air Force did want to present the advantages of its capabilities by all means (against the backdrop of the mentioned budget cuts). Warden's argumentation as well results in less risk to American soldier's lives:

> *"The Air Force becomes so important because it has a unique ability to get itself to the combat area with massive power and to affect enemy operational and strategic centers of gravity. […] Air power then becomes quintessentially an American form of war; it uses our smarts and our hightech to overwhelm the enemy without spelling too much blood, especially American blood."*[596]

While fewer casualties among ground troops had been already a criterion for Airpower in *Desert Storm*, it would now be more and more important an argument. Directly heading into

[593] Fogleman, Ronald R.: Air Force Update - Your Air Force Today, Strategic Vision and Core Competencies, by Ronald R. Fogleman, U.S. Air Force Chief of staff, presented at Air Force Association National Symposium, Los Angeles, Oct 18 1996, AFHRA, K239.057-5, p. 2.
[594] Fogleman, Air Force Update, p. 3.
[595] Headquarters, Department of the Air Force: Executive Summary, Airpower Operations (Air Force Doctrine Document-2), September 1, 1997, AFHRA, K239.057-5, p. 11f.
[596] Warden, The Future of Air Power, p. 5.

a time of post-heroism, the loss of any soldier was increasingly unbearable.[597] The authors of the draft for an *Air Force Strategic Vision Document* wrote: *"New technology and new operational concepts for using air and space power already offer an alternative to the kind of warfare that pits large numbers of young Americans against an adversary in brute, force-on-force conflicts. […] It is a strategy of asymmetric force that applies U.S. advantages to strike directly at an adversary's ability to wage war."*[598] And, resorting to the *Full-Spectrum Dominance* idea: *"Modern technology and advances in the operational art give air and space power the ability to dominate all dimensions of an adversary's operations across the spectrum of time and conflict."*[599] Therefore *"Full Spectrum Dominance depends on the inherent strengths of modern air and space power – speed, global range, stealth, flexibility, precision, lethality, global/theater situational awareness and strategic perspective."*[600] Again, this statement presented the main terms and *termini* used in the discourse on Airpower: *"speed"*, range, *precision*, and now as well the *strategic perspective* and *Stealth*. Finally, although *"all military services provide strike capabilities"*, only the Air Force had the ability *"to attack rapidly anywhere on the globe at any time".*[601] Air Force General Fogleman argued similarly in favor of modern Airpower as a substitute for attrition warfare on the ground: *"US military forces now leverage sophisticated military capabilities to achieve national objectives and avoid bloody force-on-force engagements that characterized America's traditional strategy of attrition and annihilation. Airpower is particularly relevant to this new way of war."*[602] More than a few of these arguments and terms and *termini* which came with them in 1997 got into the new *Air Force Doctrine Document*. In the second chapter in this AFDD *1* about the *The Airman's Perspective*, the authors emphasized the special capabilities of air forces:

> *"Generally, surface forces must mass combat power before launching an attack, whereas airpower is singularly able to launch an attack from widely dispersed locations and mass*

[597] In this context the concept of post-heroism is noteworthy. It says that the fighter or soldier type of human is increasingly less liked than in earlier times. Therewith go the de-militarization of the Western civilizations, the disappearance of patriotic willingness to sacrifice as well as the decreasing readiness of the society by itself to sacrifice or to accept them even. Cf. Münkler, Herfried: Der Wandel des Krieges - von der Symmetrie zur Asymmetrie, Weilerswist, 2006.

[598] Headquarters, Department of the Air Force: Final Draft of Strategic Vision Document, September 17, AFHRA, 1997, K239.057-5, p. 7.

[599] Final Draft of Strategic Vision Document, p. 3.

[600] Ibid. p. 6.

[601] Final Draft of Strategic Vision Document, p. 22.

[602] Headquarters, Department of the Air Force: Air Force Doctrine Document 2, Theater Air Warfare, 21 May 1996, Fourth Draft, 21 May 1996, AFHRA, K239.057-5, p. 10.

> *combat power at the objective. Moreover, from an airman's perspective, mass is not based only on the quantity of forces and materiel committed. […] Mass is an effect that air and space forces achieve through efficiency of attack. Today's air and space forces have altered the concept of massed forces. […] Today, a single precision weapon that is targeted using superior battlespace awareness can often cause the destructive effect that in the past took hundreds of bombs."*[603]

While *"precision"* had already become an important part of the Airpower discourse in the immediate aftermath of *Desert Storm*, in the second half of the 1990s it would be stressed even more, leading to ever more *"efficiency"*, which was also an important term for Airpower. A draft for AFDD *2*, *Theater Air Warfare*, stated that "*With the fielding of advanced precision weapons (those weapons/weapon systems that have the ability to destroy dozens of targets on a single pass), and the exploitation of the information aspect of the battlespace, airpower's impact on joint warfighting and theater warfare will continue to increase."*[604] The document directly drew on the air campaign against Iraq:

> *"Operation Desert Storm validated the concept of a campaign where airpower, with precision and lethality, applied simultaneously against enemy centers of gravity, rendered opposing military forces ineffective. Airpower emerged as a dominant form of military might. It was decisive, and more importantly, it achieved strategic paralysis of the enemy with minimal casualties to friendly forces."*[605]

Timothy D. Gann argued similarly in his 1997 Army War College study: *"What finally emerged from the experience in the Gulf was the evidence that under certain conditions, an air-oriented (as opposed to air-only) strategy can achieve decisive results."*[606] And *Chief of Staff* Fogleman wrote similarly in a *Joint Forces Quarterly* article in November 1996: *"The now famous footage of targets destroyed during the Gulf War has set the standard by which Americans think precision weapons employment today."*[607] The earlier claim, that one *smart bomb* could do the work of thousands of *dumb* bombs, was a constant in Air Force claims. The authors spoke about a – at least from an Army perspective – more traditional idea of ground war because the Army, too, pointed as early as in its concept *Force XXI* to the future

[603] United States Air Force: Air Force Doctrine Document 1, September 1997, here p. 16.
[604] AFDD 2, 1996, Fourth Draft, p. v.
[605] Ibid. p. i.
[606] Gann, Timothy D.: Decision from the Sky: Airpower as a decisive Instrument of National Power, Strategy Research Project, United States Army War College, Carlisle, PA, 1997, p. 17.
[607] Fogleman, Ronald R.: The Air Force Contribution to Joint Vision 2010 for Joint Forces Quarterly, Winter Issue, Gen. Ronald R. Fogleman, CSAF, November 7, 1996, AFHRA, K239.057-5, p. 5.

deployment of smaller units and not masses of tanks.[608] The *termini parallel* and *simultaneous* as well were brought up: *"Parallel operations can be conducted at the strategic, operational, and tactical levels of war and either symmetrically against the adversary's air and space forces or asymmetrically against the enemy's surface forces – often simultaneously."*[609] Whereas it was hereby not the first time, that the obvious simplicity of *strategic attacks* was mentioned, the central idea of the *System-of-Systems Approach* as well pushed strongly through: *"Increasingly, air and space power is providing the 'scalpel' of joint service operations – the ability to forgo the brute force-on-force tactics of previous wars and apply discriminate force precisely where required."*[610] Here as well the promotion for the Air Force's capabilities; the *terminus scalpel* fits marvelously into the image of a *paralyzed* enemy. It could even be stopped before a ground intervention in the so-called *Halt Phase*[611]:

> *"In this view of warfare, the halt phase may be planned as the conflict's decisive phase, not as a precursor necessarily to a build-up of ground forces. The point of the 'decisive halt' is to force the enemy beyond their culminating point through the early and sustained overwhelming application of air and space power."*[612]

With Clausewitz' *culminating point* a *terminus* appeared, which had come up before in scope of the *Active Defense*, but with a more geographical meaning. In another chapter of this AFDD were then, similar to its predecessors, the *Air and Space Power Functions* explained. Apart from the missions unique to the Air Force such as *Air Superiority* missions in support of the ground forces were present too: *"Air interdiction's ability to delay and disrupt may have a devastating impact on the enemy's plans and ability to respond to the actions of friendly forces, even before friendly surface forces appear in the battlespace."*[613] And another proposal for AFDD 2 then as well stated that *"Interdiction diverts, disrupts, delays or destroys the enemy's surface military potential before it can be used effectively against friendly forces."*[614] Even more interestingly, CAS was then as well described as *"the least efficient [!] application of air power, but at times may be critical to the success or even the survival of*

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[608] *„Looking at conventional and high-intensity warfare, recent military-technical developments point toward an increase in the depth, breadth, and height of the battlefield. This extension of the battlespace with fewer soldiers in it is an evolutionary trend in the conduct of war."* Cf. Force XXI Operations, p. 2-9.
[609] AFDD 1, 1997, p. 23f.
[610] Ibid. p. 30ff.
[611] Proponents of the *Halt Phase Strategy/Doctrine* believed that airstrikes could alone stop an enemy invasion on the ground. Cf. hereto Tilford, Halt Phase Strategy, p. 1f.
[612] AFDD 1, 1997, p. 42f.
[613] AFDD 1, 1997, p. 48 bis 50.
[614] Headquarters, Department of the Air Force: Proposal of AFDD-2, September 12, 1997, AFHRA, K239.057-5.

ground forces."[615] Obviously ground forces were, on the one hand, dependent on Airpower and, on the other hand, barely necessary anymore. Furthermore, their support was the least *"efficient*" mission [!]. It seemed as though the Air Force rather wanted to win wars on its own, so the *strategic attack* was mentioned as well in the 1997 AFDD *1*:

> *"Strategic attack is defined as those operations intended to directly achieve strategic effects by striking at the enemy's COGs. These operations are designed to achieve their objectives without first having to necessarily engage the adversary's fielded military forces in extended operations […] It is the effect of a relatively few well-placed systems, weapons, or actions on a few targets or target sets of extreme value that distinguishes strategic attack from other functions […]."*[616]

The above mentioned AFDD *2* proposal as well went into details about the *strategic attack* and described it in-depth: *"Strategic attack, especially when conducted as parallel warfare, is intended to produce a shock effect that demoralizes the enemy's leadership, military forces, and population, thus affecting a leader's will and a nation's capability to continue the conflict."*[617] The *"shock effect*" was indeed one of the hallmarks of the concept which Warden had proposed; earlier seen as a *"shock*" to the *"balance"* of the enemy in *AirLand Battle* (see chapter 1.7). The main idea was to attrite an enemy's *"will*" to fight:

> *"The adversary's supporting infrastructure may be so damaged that maintaining sufficient military strength to assure victory is impossible; the adversary's will to resist may be so lowered that no national determination remains to prosecute a war; the adversary's government may lose the necessary mean of communication and control to unite the people and direct the war effort; the capabilities of the adversary's Armed Forces may be so reduced that effective resistance is no longer possible."*[618]

But not only the enemy's *"will*", its *"heart*" as well got again into the discourse: *"Airpower allows us to go to the heart of an enemy's power structure without having first to deal with its military forces in detail."*[619] The image of a surgical operation (hence the slogan *surgical strike*) was drawn by Airpower proponents (*scalpel, paralyze*), somehow even promising that thanks to the advanced weaponry, less or no collateral damage at all would occur: *"Since the Gulf War, the capabilities of the USAF have been enhanced by an exponential rate of change*

[615] Proposal of AFDD-2, 1997.
[616] AFDD 1, 1997, p. 51f.
[617] Proposal of AFDD-2, 1997.
[618] Ibid.
[619] Ibid.

in information and stealth technologies. […] Improved stealth technology and precision have provided the capability to accurately remove military targets while minimizing collateral damage."[620] And for sure attacks would be aimed at nodes, being synergistic in *"effect"* more *efficient* and overwhelming: *"Today, precision engagement allows to simultaneous and rapid attack on key nodes, producing a synergistic effect which may overwhelm the enemy's capacity to recover."*[621] The key node possibly stood for the *center of gravity* itself. Indeed here was presented, what the *strategic attack* should cause – as long as executed rightly – but the *Manual* did not waste any word explaining how the right targets for the mentioned effects could be chosen at all. Only C2 were addressed. *"Efficiency"* was then emphasized as well in the 1997 AFDD *1*: *"If properly applied, strategic attack is the most efficient means of employing air and space power."*[622]

Airpower's "efficiency"

Efficient in Airpower parlance meant without ground forces: *"The defeat and annihilation of opposing surface forces is no longer a fixed, unalterable prerequisite to the achievement of national objectives in war. Air forces can swiftly cross the seas or areas of surface conflict to strike at the core of a hostile nation and reduce its capacity to continue the conflict."*[623] In March 1997 John T. Correll, editor-in-chief of the *Air Force Magazine*, again advertised the role of the Air Force in the so-called *Halt Phase*, which obviously had a special position in the argumentation of the Airpower proponents:

> *"Joint force planners undervalue airpower in the critical first stage of conflict. […] The two-MRC strategy is stiffly traditional. In the initial phase, US forces, chiefly airpower, seek to halt an invasion. […] The Air Force believes early arriving US forces can achieve more than is now expected of them in the halt phase of a conflict."*[624]

By drawing a scenario analogous to the 1991 Gulf War and proposing to halt the enemy by mainly using Airpower, Correll and other Airpower proponents brought Warden's and

[620] Headquarters, Department of the Air Force: Executive Summary, Airpower Operations (Air Force Doctrine Document-2), September 1, 1997, AFHRA, K239.057-5, p. 4.
[621] Airpower Operations, 1997, p. 21f.
[622] AFDD 1, 1997, p. 52.
[623] Proposal of AFDD-2, 1997.
[624] Correll, John T.: To Halt an Invasion, in: Air Force Magazine, March 1997.

other's statements about the utility of ground forces forward.[625] The August edition of the *Air Force Magazine* in 1997 cited General Charles D. Link about the *Halt Phase* who had, as *Special Assistant to the United States Air Force Chief of Staff*, worked at the *Quadrennial Defense Review 1997* (QDR)[626]: *"We can do that, pretty much, with modern airpower. Once you have him stopped, you can then keep him from regaining any military effectiveness with a smaller amount of force than it took you to stop him."*[627] Link pointed to the increasing displeasure against risking the life of one's own soldiers. The idea of the *Halt* was then as well discussed by James Kitfield, *Defense Correspondent* of the *National Journal*, in the 1998 January edition of the *Air Force Magazine*:

> *"The example of the Desert Storm campaign forms the crux of the argument that airpower should be given a more prominent, and to some extent independent, role in future warfighting scenarios. Instead of launching a synchronized ground/air counteroffensive as prescribed by the AirLand Battle Doctrine of the 1980s, […] a combination of advanced technologies, […] had vastly increased the effectiveness of US airpower against massed armored forces, even when the latter were in dug-in positions."*[628]

The technological development efforts of the 1980s had indeed given Airpower more capabilities against ground forces and had therefore enabled at the same time the type of discourse that Airpower's proponents coined in the later 1990s. Generally, the 1991 Gulf War with its very specific circumstances (long build-up phase, coalition partners with infrastructure in the theater, enemy without far-going ambitions) is rehashed again and again as the ideal image of war. In December 1998 Elaine M. Grossman, *Senior Correspondent* of *Inside the Pentagon*, wrote in the *Air Force Magazine* about the *Halt Phase*: *"A decisive halt, airpower proponents believe, could provide a 'culminating point' at which the theater commander has a number of options to further disable the enemy regime, ranging from a ground offensive to continuation of the air campaign."*[629] Again Clausewitz' *culminating point* served as some type of buzzword, without being clear, how that point

[625] Cf. Harshberger, Edward R. / Kent, Glenn A. / Ochmanek, David A. / Thaler, David E.: Find, Hit, Win, in: Air Force Magazine, April 1999, p. 50-59, here p. 51. Furthermore later on, Elaine M.: The Halt Phase Hits a Bump, in: Air Force Magazine, April 2001, p. 34-36, here p. 34.
[626] The QDR was introduced in 1997 and commits the secretary of defense to check defense planning every four years.
[627] Cited in Link, Charles D.: The New View of Airpower, in: Air Force Magazine, August 1997.
[628] Kitfield, James: To Halt an Enemy, in: Air Force Magazine, January 1998.
[629] Grossman, Elaine M.: Duel of Doctrines, in: Air Force Magazine, December 1998, p. 30-34, here p. 31.

could be determined at all. Army proponents on the other side, here Dr. Earl H. Tilford Jr. of the *Strategic Studies Institute* at the *Unite States Army War College*, questioned whether a future enemy could be stopped by only using air strikes: *"Perhaps, if all our enemies confront us with large mechanized forces in open terrain, […] Halt will probably work. But just because the last enemy we fought was so obliging is no indication that the next one will be."*[630] Tilford criticized the ideal image coming from the Air Force which was based on *Desert* Storm. Frank Finelli did argue similarly in the summer edition of the *Airpower Journal* in 1999:

> *"If an adversary chooses to mass his military formations deep in the battle space and segregate them from his populace, then aerospace power may work wonders. However, an adversary is likely to disperse his force to make us employ our aircraft and precision munitions at uneconomic rates."*[631]

And in 1999 Lieutenant Colonel Antulio J. Echevarria II wrote in the autumn edition of the *Airpower Journal*:

> *"If twenty-first-century information technology is actually capable of producing a revolution in military affairs, that revolution must include the ability to wage war without resorting to linear, sequential campaigns. If it does, airpower and land power must fuse in order to execute simultaneous, highly precise tactical-, operational-, and strategic-level air-ground attacks throughout the new global theater."*[632]

Echevarria, an Army officer, interestingly published in an Air Force journal and pointed out that air strikes alone could not be *decisive*. He described a more *joint* approach. Tilford had, in 1998, argued similarly: *"Despite the previously successful rhetoric, the reality is that air power has yet to be the single decisive instrument in any war."*[633] Nonetheless, Air Force proponents during the 1990s mostly came to the conclusion that thanks to Airpower a ground offensive had become unnecessary. This discussion has to be looked at against the backdrop of hot budget debates and quarreling during these years.[634] In this period the United States intervened, as mentioned before, mainly using air strikes or peacekeepers (prominently in the Balkans, but for example in Haiti too).

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[630] Tilford, Halt Phase Strategy, p. 13f.
[631] Finelli, Frank: Transforming Aerospace Power, in: Airpower Journal, Summer 1999, p. 4-15, here p. 9.
[632] Echevarria II, Antulio J.: Fusing Airpower and Land Power in the Twenty-First Century, in: Airpower Journal, Fall 1999. p. 66-74.
[633] Tilford Halt Phase Strategy, p. 4.
[634] After the *Quadrennial Defense Review* in 1997 the proposition was made to have the Air Force reducing 26'900 personnel versus 15'000 in the Army and 18'000 in the Navy. The *F-22* program should be slashed also, as well the *B-2* and JSTARS. Cf. Tilford, Halt Phase Strategy, p. 3f.

Proponents of the *Systems Approach* assumed that to analyze the enemy and search for the important *center of gravity* was the most difficult part of the concept. The *terminus scalpel* brought the image of war then to the point; after the *paralysis* by the *strategic attack* the enemy had only to be *dissected*. *Lewis* compares Warden's thinking – to bypass the enemy military potential with a direct attack on the political leadership – with the theoretical approaches to aerial warfare of the Second World War (Douhet, Mitchell), only deploying new technology. Lewis criticizes that strategic decapitation strikes could only be *effective* against states but not against nations with elected governments. Attacks on the political leadership were a sign to the population but were seldom *decisive* because nations can offset these casualties. Attacking enemy infrastructure would provoke solidarity in the case of nations too. In the case of states or dictatorships, support for the leaders would falter, but they would seldom lead to the fall of the dictator because dictatorship could use the attacks as part of its own propaganda. Historically, that could as well be seen in scope of the aerial bombardments against Nazi Germany in the Second World War.[635] Lambeth argues that there had been underlying hope among the United States Central Command's (CENTCOM) air planners that the early attacks against infrastructure targets in and around the *"so-called Baghdad center of gravity"* would weaken Saddam Hussein's control over his people. That hope had proved to be groundless; according to Lambeth, popular attitudes did not matter *"given the depth and pervasiveness of Hussein's grip on the country".* The strategic part of the air campaign did little *"effect"* to the immediate course and outcome of *Desert Storm*.[636] On the other side, there are also arguments to rebut the Airpower-proponents idea of the *Halt Phase*. It was only a matter of time before the Iraqi Army ran out of critical supplies and fighting strength, mostly owing to the international trade embargo and Russia's compliance in halting arms transfers to Baghdad. Lambeth argues further that the United States and its principal allies will not always be able to count on such cooperation in future crises.[637] The coalition furthermore enjoyed a mint basing infrastructure in the *Persian Gulf* region that left almost nothing to be desired*, "largely owing to the military assistance that the United States had provided Saudi Arabia over the preceding four decades."*[638] But there had also been voices in the Air Force who did realize that the United States would not always profit from

[635] Lewis, The American Culture of War, p. 293f.
[636] Lambeth, The Transformation of American Air Power, p. 146f.
[637] Ibid. p. 139.
[638] Ibid. p. 140.

favorable circumstances: *"In the future, we can expect our enemies to enjoy a homefield advantage […] and we shouldn't expect to be handed several months to move ourselves into position and prepare before we are forced to engage. […] We should expect our nation, the people we serve, to demand we win quickly, decisively, and with little loss of life."*[639]

Operation Allied Force

Nonetheless, Air Force officers would then argue that in the aerial war against Serbia in 1999 Milosevic's relenting had been reached without deploying ground force entirely.[640] But Serbia was able to minimize casualties using concealment and deception; according to Tuck only an impending ground offensive forced the Serbian government to relent. This happened because the deployment of NATO ground forces would have forced Serbian forces to come out of their concealed positions where they would have easily been attacked and destroyed by NATO Air Forces in the open.[641] Lambeth argues, that as there was no credible NATO ground threat (what the NATO allies had ruled out from the start because of an assumed lack of popular willingness to accept casualties), most of Serbia's ground forces were able to survive the air attacks simply by dispersing and concealing their tanks and other vehicles.[642] Bradley J. Smith analyzed in a 2002 study: *"With no ground force to tie down or identify enemy forces, the Serbians were able to easily move small units from house to house to continue their campaign against the largely defenseless Kosovar civilians. These small units were hard to identify and target from the air."*[643] Brian P. Stephenson argued similarly in his *War College* Study: *"In fact, the air-only campaign failed to stop accelerated brutality in Kosovo. […] Moreover, Serbia's military was left essentially intact."*[644] And Troy R. Stone even concluded in a 2001 thesis presented to the faculty of the *School of Advanced Airpower Studies*: *"In the end NATO was never able to credibly threaten the FRY's [Federal Republic of Yugoslavia] military forces."*[645] Even Adam J. Hebert, Executive Editor of the *Air Force Magazine,* a strong Airpower proponent, would argue in a 2009 retrospective: *"The absence*

[639] Loh, John M.: Draft Speech for General Loh, Aerospace Power Symposium, Maxwell AFB, AL, 19 Nov 93, AFHRA, 01155261, p. 3.
[640] Tuck, Land Warfare, p. 109.
[641] Ibid. p. 113.
[642] Lambeth, The Transformation of American Air Power, p. 184.
[643] Smith, Bradley J.: On politics and Airpower, United States Army War College, Carlisle, PA, 2002, p. 24.
[644] Stephenson, Brian P.: Rapid Decisive Operations (RDO): A Case Study Analysis, United States Army War College, Carlisle, PA, 2002, p. 18.
[645] Stone, Troy R.: The Air War over Serbia: Denial, Punishment, or Balance of Interest, A thesis presented to the faculty of the School of Advanced Airpower Studies for completion of graduation requirements, School of Advanced Airpower Studies, Air University, Maxwell Air Force Base, AL, June 2001, p. 41.

of a credible ground threat meant Milosevic's forces did not have to mass in defensive positions, where they would be easy targets for airpower. They were instead free to disperse as single trucks or tanks, hide under trees, and spread out through neighborhoods."[646] In the end, Milosevic probably decided to accept NATO's demands simply out of a rational calculation that he would nothing gain by holding out any longer. According to Lambeth, a ground invasion could have meant Serbia's loss of Kosovo for good, posing the direst threat to Milosevic's political, and possibly even personal, survival.[647]

On a more technical side, Serbia's ground forces had developed simple tactics and techniques to prevent their destruction. JSTARS and other airborne infrared sensors to locate enemy tanks and other military vehicles, which had worked well in *Desert Storm,* were largely inapplicable in the very different setting of Kosovo, where the climatic and geographical circumstances differed remarkably from the desert terrain in Iraq. In the aftermath of *Allied Force*, surveys of bomb-damage effects confirmed that NATO attacks against Serbian ground forces accomplished considerably less than initially thought.[648] NATO as well had to dedicate a larger-than-usual number of airstrikes to the SEAD mission as a credible SAM threat persisted throughout the air campaign. That, in turn, meant fewer sorties to allocate against Serbian military and infrastructure targets.[649] Former TAC commander Wilbur Creech in 2000 argued that *"In contrast to the far more satisfying SEAD experience in Desert Storm, the effort to neutralize Serb air defenses did not go nearly as well as expected."*[650] The same applied to efforts to attack mobile enemy troops operating in Kosovo where NATO was all but completely *ineffective*.[651] Creech as well wrote in his 2000 paper that

> *"Most of the attack planning that was done throughout the campaign was not driven by desired effects, but rather entailed simply parceling out sortie and munitions allocations by target category as individual targets were approved, without much consideration given to how a target's neutralization might contribute toward advancing the campaign's objectives."*[652]

[646] Hebert, Adam J.: The Balkan Air War, in: Air Force Magazine, March 2009, p. 42-46, here p. 43.
[647] Lambeth, The Transformation of American Air Power, p. 193f.
[648] Ibid. p. 196.
[649] Lambeth, The Transformation of American Air Power, p. 198.
[650] Creech, Wilbur L.: Paper discussing airpower use during Operation Allied Force, 31 Dec 2000, AFHRA, 168.7339-1836, p. 3.
[651] Ibid. p. 4.
[652] Ibid. p. 6.

Mahnken points to various examples, which should show, that the thesis about the combination of PGM and modern sensors did not prove itself. In his opinion as well the *No-Fly Zones* (NFZ) over Southern and Northern Iraq did not have any impact on *Saddam Hussein*, and NATO operations in Bosnia in 1993 could not stop the massacre of Srebrenica because more ground troops with corresponding means would have been necessary.[653] Operation *Allied Force* in 1999 should only last for a few days but instead lasted 78 days in the end, and some claim that it proved that ethnic cleansing increased during the air strikes.[654] Therefore in hindsight, it seems as the Air Force's doctrinal ideas were not suited to real world applications and were not at all as flexible as stated in official documents and envisioned by their proponents.

Lewis argues that while technology, operational doctrine, and new adaptive organizations in the realm of the RMA were to come together in ways that created synergies, there was a problem with this thinking: *"It left out the human beings."* It is a fact, that people are more than the sum of their biological parts. The RMA idea diminished or somehow hid the fact *"that wars are not won until people accept defeat."* If humans do not accept the outcome of a war, it is not over. So to speak in the language of the RMA proponents, *"The brain, the central nervous system, and the muscles can be destroyed, but if the people don't accept defeat, the struggle continues."*[655] Lambeth wrote in 2000 that although Airpower can be surgically *precise* when *"precision"* is called for, it still is a blunt instrument designed to destroy things and kill people.[656] Even as the Airpower discourse did repeatedly stress *"speed"*, range, *"precision"* and work with the image of a *paralyzed* enemy corpse, it did not adequately reflect real world circumstances, neglect the *"will"* which had to be *shocked* and was therefore rightfully criticized as well.

2.6 *Transformation* and *Effects-Based Operations*

President George W. Bush held out the prospect of a deep change in the United States Armed Forces even before his inauguration in January 2001.[657] The 21st century, according to then *Secretary of Defense* Donald H. Rumsfeld, held ready a whole range of unknown,

[653] Mahnken, Technology, p. 180ff.
[654] Buley, The New American Way of War, p. 81, and Evans, Michael: Dar Victory, in: Proceeding, September 1999, Vol125/9/1,159, p. 33-37, as quoted in: Lewis, The American Culture of War, p. 382.
[655] Lewis, The American Culture of War, p. 381.
[656] Lambeth, The Transformation of American Air Power, p. 231.
[657] Myers, Richard B.: A Word from the Chairman: Understanding Transformation, in: Army Space Journal Winter/Spring 2003, p. 12-13 und 48-50, here: p. 12f.

uncertain, and unexpected threats to the United States. The United States were far superior to their rivals and enemies in the area of *conventional* arms, which is why they would resort to *unconventional* or *asymmetric* means: battling the United States by stressing their own weaknesses using other means than heavy weapons and technology. While the United States Air Force had propagated *Asymmetry* advantages in the 1990s, now the enemy would try to cope with the United States Armed Forces in an *asymmetric* way as well. The distinguishing of *conventional*/*unconventional*, *regular*/*irregular* and now *symmetric*/*asymmetric* points to the military way of categorizing types of enemies, types of means and types of warfare throughout the discourses.

Transformation

The *Transformation* concept foresaw that own vulnerabilities should be searched for, found and eliminated (in a mostly technological sense).[658] As early as in the *Quadrennial Defense Review* in 2001 six goals for the modification of the Armed Forces were listed, among others measures to be taken against enemy weapons which could deny the United States *access* to an operational theater[659], the introduction of further space-based systems, and the creation of an integrated C4ISR architecture (*Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance*) by exploiting advances in *"information"* technology.[660] Distinct course decisions, such as the abandonment of certain procurement programs to facilitate others or implement them faster, did not appear before 2001, but the spiritual framework for a deep reorganization and modification of the Armed Forces was outlined.[661]

Similar to the Air Force's documents in the late 1990s, the Army did a lot of conceptual work. Projects like *Army After Next* or *Force XXI* were translated into brochures in 1997 and 1999. The 1997 leaflet *Full Spectrum Force – Globally Engaged – Changing to Meet the Nation's Needs* called the United States Army "*the* Nation's *Full Spectrum Force*" and argued that "*Land forces provide the Nation the full range of options for shaping the world*

[658] Rumsfeld, Transforming the military, p. 23ff.

[659] For example modern far-reaching air defense systems, anti-carrier missiles or weapons to destroy satellites. But apart from that as well the capabilities of the *Streetfighter State* as described by Krepinevich, see chapter 2.2.

[660] Department of Defense: Quadrennial Defense Review Report, September 30, 2001, p. 30.

[661] Davis, Paul K.: Military Transformation? Which Transformation, and What Lies ahead?, in: Stephen J. Cimbala: The George W. Bush Defense Program: Policy, Strategy, and War, Chapter 2, May 2010, here p.20.

environment."[662] Budgetary concerns were included as well; the Army was *"responding to the fiscal realities the Nation faces"*[663] and it was as well *"a cost effective force"*[664], without providing any more details about that, but using the term *"efficiency"*, as the Air Force already had done earlier. In the author's eyes *"the deployment of land forces […] was the most compelling response that can be made, short of war, to demonstrate the national will to prevent conflict."*[665] And then in 1999, the paper *America's Army, Ready Today… Ready Tomorrow* described the Army as "*agile, adaptive and able to meet the challenges of an uncertain future."*[666] With its subtitle *Knowledge – Speed –Power* the paper directly pinpointed towards the *Force XXI* idea, serving the discourse on the advantages brought by the technological developments. Army leaders wanted to develop *"the 21st Century's most effective fighting force."*[667] Interestingly, the Army originally wanted to publish a new version of its FM *100-5* in 1997 and according to Kretchik, the 1997 draft was a significant effort to blend war and MOOTW into one theoretical approach.[668] But then the *Transformation* idea set out another set of signposts. The edition of FM *100*-5 – which was finally published in 2001, renumbered FM *3-0,* and hugely influenced by the *Transformation* idea – was then going into a rather different direction accordingly. The current chapter will first examine this last FM *Operations* published before the prolonged COIN campaigns in Afghanistan since 2001 and in Iraq beginning in 2003.

The FM 3-0 from 2001

In the 2001 edition of the FM *3-0 Operations* authors describe the *Role of Land Power: "Today, potential adversaries rely on land-based military and paramilitary forces to retain power, coerce and control their populations, and extend influence beyond their borders."*[669] The enemy could as well have (para-)statelike structures and would be beatable on the battlefield. Already at the beginning the concept *Joint Force* was mentioned; *jointness* at this

[662] Headquarters, Department of the Army: Program Analysis & Evaluation Directorate America's Army … into the 21st Century, Full Spectrum Force - Globally Engaged - Changing to Meet the Nation's Needs, June 19, 1997, p. 2f.
[663] Department of the Army, Full Spectrum Force, p. 10.
[664] Ibid. p. 6.
[665] Ibid. p. 3.
[666] Headquarters, Department of the Army: America's Army, Ready Today… Ready Tomorrow, Knowledge – Speed – Power, June 21, 1999.
[667] Ibid.
[668] Kretchik, U.S. Army Doctrine, p. 244.
[669] Headquarters, Department of the Army: Field Manual 3-0, Operations, Washington, DC, Department of the Army, 2001, p. 1-2.

time was one of the newly important *termini*, even though the *AirLand Battle* as well had incorporated the cooperation between Air Force and Army. Quick deployment of forces had first priority: *"Army forces deploy quickly into an area of operations* (AO) *to deter adversaries and potential enemies from establishing their forces and preclude them from gaining an operational advantage."*[670] The spectrum of missions did change, too:

> *"The airborne and air assault capabilities of Army forces allow JFCs [Joint Forces Command] to seize airfields or other important facilities, such as WMD [Weapon of Mass Destruction] production and storage sites. […] Only land forces can exercise direct, continuing, discriminate, and comprehensive control over land, people, and resources."*[671]

While the Air Force at the same time had emphasized how it only and alone could reach globally and attack targets with pinpoint accuracy, the Army on the other side did in its own discourse describe itself as being able to act discriminately and directly as well. Only soldiers could, in the eyes of the Army brass, control land and people – that was a very new argumentation – which was being directly aimed at the Air Force's propositions. Obviously experiments in the scope of the concept *Army after Next* did influence the new *Manual*, with aerial deployment leading the way.[672] Respect of enemy *Weapons of Mass Destruction* (WMD) seemed as well to be ever-present, corresponding to the threat scenarios described by George W. Bush. But while WMD had been part of another style of warfare in the 1980s, they now were counted as one of the means groups or *Streetfighter States* had at their disposal to fight *unconventional*, *asymmetric* and *irregular*. In the modern land warfare terms such as *"simultaneity"*, *"depth*", *"maneuver"* and *"will"* reappeared, known from the *AirLand Battle*:

> *"Land combat […] usually involves destroying or defeating enemy forces or taking land objectives that reduce the enemy's effectiveness or will to fight. […] Land combat involves contact with an enemy throughout the depth of an operational area. Forces conduct simultaneous and sequential operations in contiguous and noncontiguous AOs*

[670] FM 3-0, Operations, 2001, p. 1-3.
[671] Ibid. p. 1-6.
[672] In the scope of *Allied Force* it became obvious that the Army just plainly had too few rapidly deployable units; mechanized divisions and even their attack helicopter battalions were not deployable in reasonable time. Cf. Mahnken, Technology, p. 187.

[Areas of Operation]. Commanders maneuver forces to seize and retain key and decisive terrain."[673]

"Depth" hereby again was understood as a geographical element of the battlefield, *"maneuver*" as well. Operations could now be *simultaneous* and *sequential*, referring to the *"simultaneity*" of OOTW or LIC and *conventional* war. Therefore, operations throughout the whole spectrum were mentioned: *"Full spectrum operations include offensive, defensive, stability, and support operations."*[674] The concept of *stability operations* obviously emerged from OOTW or LIC as a *terminus* to name *unconventional* or below-war-level conflicts referring most certainly as well to the operations conducted in the Balkans in the 1990s. In a chapter about the *Strategic Responsiveness* of the Army, the *Manual* also postulated: *"Taken as a whole, effective and efficient force projection exhibits four characteristics: precision, synchronization, speed, and relevant information. Commanders incorporate these characteristics into the conduct of force projection operations."*[675] Not only the Air Force, but the Army also drew on the term *"efficiency"*; and the authors as well used the *terminus projection* of military power. Terms such as *"synchronization"*, *"information"* and *"speed*" appeared repeatedly as well and showed the concept of war in the *information age,* but two of these terms, *"synchronization"* as well as *"speed*", had already been present in the 1980s. The basics of warfare as portrayed in the 2001 FM *3-0* included the *Elements for Combat Power,* wherewith this edition did not differ significantly from its predecessors. To be mentioned are at this point *"firepower*" and *"maneuver*":

"Maneuver is the employment of forces, through movement combined with fire or fire potential, to achieve a position of advantage with respect to the enemy to accomplish the mission. Maneuver is the means by which commanders concentrate combat power to achieve surprise, shock, momentum, and dominance. […] Firepower provides the destructive force essential to overcoming the enemy's ability and will to fight. Firepower and maneuver complement each other. Firepower magnifies the effects of maneuver by destroying enemy forces and restricting his ability to counter friendly actions; maneuver creates the conditions for the effective use of firepower."[676]

[673] FM 3-0, Operations, 2001, p. 1-11.
[674] Ibid. p. 1-14ff.
[675] Ibid. p. 3-13.
[676] Ibid. p. 4-4 to 4-6.

The description of the term *"maneuver*", which could be found more or less identical in the earlier *Manuals*, shows one thing for sure: despite modern *termini* such as *Full Spectrum Operations* or *Dominant Maneuver* the Army did not seem to have departed from *AirLand Battle's* basics, since they could be found with a similar weight after all. *"Maneuver*" was still mainly used to facilitate the destruction of the enemy by *"firepower*".

Shock and Awe and "effects" in Army parlance

The *"Shock"* was one of the terms used by Harlan K. Ullman and James P. Wade in a 1996 *National Defense University* study, and it could as well be found earlier with *AirLand Battle*. The two authors developed the idea of Rapid Dominance, referring to the enemy's *"will"*: *"To affect the will of the adversary, Rapid Dominance will apply a variety of approaches and techniques to achieve the necessary level of Shock and Awe at the appropriate strategic and military leverage points."*[677] *Shock and Awe* had to be achieved by leveraging new technologies to shorten the sensor-to-shooter-cycle: *"At whatever the unit level, Shock and Awe are provided by the speed and effectiveness of this cycle. Then, the ability to do this simultaneously throughout the battlefield creates a strategic Shock and Awe on the opposing forces, their leadership, and populace. This simultaneity and concurrency are central tenets of imposing Shock and Awe."*[678] Ullman and Wade in this last statement used a variety of the most important terms: the *"effectiveness"* and *"speed"* thanks to technology. The rapidity of the decision cycle was not entirely new; Boyd had already coined it earlier.[679] *Rapid dominance* depended, therefore, mostly from an *information superiority*: "*The weakness of this form of Shock and Awe is its major dependency on intelligence. One must be certain that the will and perceptions of the adversary can be manipulated."*[680] The authors rightly reckoned that dependency as well, seemingly, and they even knew that not all conflict scenarios would fit to their ideas: *"Operations Other Than War present a different set of challenges. These challenges are likely to require discrete dominance of specific circumstances rather than total dominance."*[681] But nonetheless, *Shock and Awe* foresaw the image of a battlefield with *pressure points* to attack with *"firepower"*:

[677] Ullman, Harlan K. / Wade, James P.: Shock And Awe: Achieving Rapid Dominance, National Defense University, 1996, p. xii.
[678] Ibid. p. 55.
[679] See chapter 1.7.
[680] Ullman / Wade, Shock And Awe, p. 30.
[681] Ibid. p. 42.

> *"The battlefield of the future will encompass every pressure point that controls or influences the elements of the battle. In examining this battlefield and the application of force and Shock and Awe, we seek to mass devastatingly accurate and simultaneous firepower on critical nodes/targets that count for the mission at hand, rather than necessarily having to mass large armies in the field to engage one another."*[682]

But the ideas of Ullman and Wade did not get into the discussion without being criticized. In 2001 Antulio J. Echevarria II wrote about the *Rapid Decisive Operations* (RDO) concept which was interconnected to *Shock and awe*:

> *"RDO's first and most egregious assumption is that the National Command Authorities (NCA) will desire military forces that are rapid and decisive in all scenarios. Political leaders might well prefer a gradual approach in most cases. The second faulty assumption is that U.S. forces will possess perfect or near-perfect knowledge of the enemy. Information technologies have not yet lived up to expectations in this regard. The third flawed assumption underpinning RDO is that an adversary is a system of systems that can be paralyzed by a few well-placed strikes against his critical nodes."*[683]

Echevarria, therefore, did directly question Warden's (and the Air Force's) idea of how an enemy *system* could be analyzed as well. Nonetheless, the *termini* used by the authors Ullman and Wade did quickly find their way into official Army language. *Shock and Awe* would then be the extension, utilized to name the strategy against Iraq in 2003.

Even though the lethality of the modern battlefield was not celebrated as it was in the 1980s, the *battlespace* seemed to be a newer version of the earlier enlarged *("depth"*) battlefield. Noticeable is the term *"effect"*, which interestingly seemed to have become a buzzword in the Army too, if one looks at the repeated naming in the analyzed FM from 1993 and 2001. The Army's fascination with *"effect"* was reflective of *AirLand Battle's* fascination with *"synchronization"*. The ideal in both cases was that limited actions could have *decisive* consequences. The illusion was that these consequences could be predicted and planned for. And the focus on *"effects"* in the scope of *Dominant Maneuver* speaks against the *raison d'être* of heavy armored and mechanized units because these could be less prepared to attack targets *precisely* or to fight insurgencies, as Tuck argues.[684] Tuck, in

[682] Ullman / Wade, Shock And Awe, p. 108.
[683] Echevarria II, Antulio J.: Rapid Decisive Operations: An assumptions-based critique, Strategic Studies Institute, United States Army War College, Carlisle, PA, November 2001, p. VI.
[684] Tuck, Land Warfare, p. 111.

his 2008 monograph, further describes the danger that a more networked Army could indeed cause *"effects"* but would itself be susceptible to *"effects"* by the enemy, as Krepinevich had well reckoned and as had been discussed in military publications before.[685] But that thought seemingly had no place in the discourse on warfare and the role of technoogy in the latter.

At least parts of the military realized that after the victory in the Operation *Desert Storm*, which was interpreted as overwhelming, not all of the possible future opponents would like to fight the United States with *conventional* means. But this thought does not seem to have influenced doctrine development, which correlates with the special authoritative image of *"modern war"* which the institution Army cultivates. This image still comprises the land war against a militarily or at least para-militarily organized enemy sporting clear structures as the most prominent type of war. But in Somalia, where the United States were involved from 1993 until 1994, neither *Battlefield Dominance* nor *Precision Engagement* or even *Precision Maneuver* did work against an enemy, who evaded *Overwhelming Force* in the open country or in cities. This type of enemy seemed to pose an enduring problem for the Army, at least doctrinally.[686] But to the contrary, *Desert Storm* still served as the origin for the Army's *Transformation*. Steven Metz wrote in a 2000 *Army War College* study:

> *"Again, the expectation is that future warfare will be a reprise of Desert Shield/Desert Storm – unambiguous, cross-border aggression by one state against another. The services, however, offer few explanations of why American political leaders would use military force early in a crisis when they traditionally consider it a last resort. Similarly, there is little indication of how the various future strike and expeditionary forces might be used against nontraditional enemies or ambiguous aggression. 'Strategic preclusion' may be an example of the tendency to prepare to fight the previous enemy rather than future ones."*[687]

But the scenario was further refined, as described by then *Chief of Staff of the Army* General Eric K. Shinseki:

> *"Had Saddam followed our doctrinal rules of thumb – having initiated combat on his terms, had he retained the initiative, stayed on the offensive, denied us the ports of entry*

[685] Tuck, Land Warfare, p. 117.
[686] Linn, Echo of Battle, p. 222f.
[687] Metz, Steven: Armed conflict in the 21st century: the information revolution and post-modern warfare, Strategic Studies Institute, United States Army War College, Carlisle, PA, April 2000, p. 38.

> *and kept us from transitioning out of Europe and CONUS [CONtinental United States], it would have been a different war. […] Our early arriving forces lacked the staying power to fight against large mechanized formations, and our heavy forces were challenged to get to theater quickly."*[688]

So further developed from *AirLand Battle Future*, the focus lay again on the *conventional* type of war.

The Objective Force

To be able to overcome the difficulties posed by an enemy who would not wait, until the United States Armed Forces stood locked and loaded on their doorsteps, Army leaders imagined a future *Objective Force*, who could handle the threat: *"The Transformation will produce a future force, the Objective Force, founded on innovative doctrine, training, leader development, materiel, organizations, and soldiers."*[689] The *Objective Force* was the force of the future, which the Army should at some point in time be able to field. It was therefore the focus of The Army's long-term development efforts (*objective*). It would *"maximize advances in technology and organizational adaptations to revolutionize land-power capabilities."*[690] The concept of Landpower here appeared for the first time as a counterpart to Airpower. According to General Shinseki, the *Objective Force* was *"The Army's ultimate goal for Transformation."* The *Objective Force* should then be

> *"Operating as part of a joint, combined, and/or interagency team, it will be capable of conducting rapid and decisive offensive, defensive, stability and support operations, and be able to transition among any of these missions without a loss of momentum. […] The Objective Force will provide for conventional overmatch and a greater degree of strategic responsiveness, mission versatility, and operational and tactical agility."*[691]

So the Army went from *Overwhelming* to *Overmatch*. Shinseki as well described warfare in a distributed manner on a diverse battlefield: *"While operations were planned as sequential events on a linear battlefield, we now look to master continuous and simultaneous*

[688] Shinseki, Eric K.: Speeches – AC of S, Remarks at the AUSA Mid-Winter Conference, Fort Lauderdale, Florida, 2 Mar 2001, AHEC, Eric K. Shinseki Collection, Series III Speeches, Army Chief of Staff, 19 Jan - Dec 2001, Box 86, Folder 10.
[689] Shinseki, Eric K. / White, Thomas E.: Speeches – AC of S, Joint Statement by Shinseki and Thomas E. White, Secretary of the Army, before the Senate Committee on Armed Services, 10 Jul 2001, AHEC, Eric K. Shinseki Collection, Series III Speeches, Army Chief of Staff, 19 Jan - Dec 2001, Box 86, Folder 48, p. 4.
[690] Ibid. p. 11.
[691] Shinseki / White, Joint Statement before the Senate Committee on Armed Services, p. 14.

operations on noncontiguous and distributed battlespace in the future."[692] And that battlefield required a *dominant* Army because *"Ground forces are central to achieving […] dominance. Ground forces are often the only precise instrument that can attack conflicted targets – targets, for instance, that the enemy shields in sanctuaries or extremely hardened targets."*[693] And Shinseki could not hold himself back from criticizing the Air Force's *"precision"* mantra: *"Precision munitions for imprecise and mobile targets have not worked very well."*[694]

At the same time, the Army tried, obviously, to match the Air Force's *Global Engagement* idea. Having not been able to quickly deploy its forces in the realm of Operation *Allied Force* in 1999, future Army units should be rapidly deployable but at the same time able to beat any enemy:

> *"Objective Force units will conduct operational maneuver from strategic distances, creating diverse manifold dilemmas for our adversaries by arriving at multiple points of entry, improved and unimproved. As necessary, Objective Force units conduct forcible entry, overwhelm aggressor anti-access capabilities, and rapidly impose our will on our opponents. In this manner, Objective Force units arrive immediately capable of conducting simultaneous, distributed and continuous combined arms, air-ground operations, day and night in open, close, complex, and all other terrain conditions throughout the battlespace."*[695]

Rapid deployment (*"speed"*) was demanded as well by retired Army Brigadier General David L. Grange, executive vice president and chief operating officer of the *McCormick Tribune Foundation*; Lieutenant Colonel Richard D. Liebert, United States Army Reserve, staff leader and instructor, *11th Battalion, 6th Brigade, 104th Division*; and Major Chuck Jarnot, operations officer, *Active and Reserve Component Training Support Battalion*, Fort Riley, Kansas: *"Today's requirements demand the ability to project forces rapidly worldwide with an overmatch capability throughout the spectrum of conflict."*[696] Here another counterpart

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[692] Shinseki / White, Joint Statement before the Senate Committee on Armed Services, p. 4.

[693] Shinseki, Eric K.: CSA Remarks (as prepared) – AUSA Seminar, Washington D.C., 8 November 2001 / Speeches - AC of S, Remarks at the AUSA Seminar, Washington, D.C., November 8, 2001, AHEC, Eric K. Shinseki Collection, Series III Speeches, Army Chief of Staff, 19 Jan - Dec 2001, Box 86, Folder 73, p. 5.

[694] Ibid. p. 5.

[695] Headquarters, Department of the Army: Official Papers – AC of S, Reports, „Concept for the Objective Force: Concept Summary", Undated, AHEC, Eric K. Shinseki Collection, Series II Official Papers, Army Chief of Staff, 19 Jan - 18 Dec 2002, Box 77, Folder 24, p. iv.

[696] Grange, David L. / Jarnot, Chuck / Liebert, Richard D.: Airmechanization, in: Military Review, July-August 2001, p. 10-21, here p. 11.

to an Airpower argument or term appeared: *worldwide*. And at the same time, with the publication of FM *3-0* in 2001, the *terminus project* had found its way definitively into Army language, describing the deployment of forces all over the globe. The authors saw deployability as making the Army relevant for the 21st century: *"US Army relevance in the 21st century depends on the ability to deploy sizable forces rapidly from the Continental United States."*[697] To merge deployability and combat capability, the Army shared the Air Force's *Systems Approach* as well, but in a different vision:

> *"Platform designs in an arrangement of system-of-systems technologies will enable decisive maneuver, horizontal and vertical, day and night, in all terrain and weather conditions. These breakthroughs will give Objective Force units the lethality and survivability needed to deliver full spectrum dominance, the versatility to change patterns of operation faster than the enemy can respond, and the agility to adjust to enemy changes of operation faster than he can exploit them."*[698]

The so-called *Objective Force* was fittingly the objective for the modernization of the Army's ground forces, the *Transformation*, as it would later be named. Now weapons systems were named as *platforms*, signifying the idea of a networked force to come. A 2002 White Paper read:

> *"At the strategic level the Objective Force deploys from either forward sanctuaries or the continental U.S. The force has both expeditionary and campaign qualities; is configured for rapid deployment and ready at a moment's notice for sustained operations. At the operational level the Objective Force arrives at multiple austere points of entry via air and sealift. Tactically, the Objective Force deploys and re-deploys in tactical aircraft capable of short field and unimproved runways."*[699]

This fast-to-be-deployed force would help bring the Army up-to-date technology-wise: *"Our future Army, the Objective Force, will be the most capable Army in history. There is unlimited potential for increased capabilities beyond our wildest dreams."*[700] Multiple authors were positive as well towards a technologically advanced force: *"The Objective Force will bring formidable firepower at a rate and speed that will overpower any adversary. The key to*

[697] Grange / Jarnot / Liebert, Airmechanization, p. 21.
[698] Concept for the Objective Force: Concept Summary, p. iv.
[699] Headquarters, Department of the Army: Objective Force Task Force: Preface to The Objective Force in 2015 White Paper, Final Draft, Washington D.C., 8 December 2002, p. 2.
[700] The Objective Force in 2015, p. 35.

success is to overwhelm the enemy's ability to respond."[701] Despite modernization and speech about platforms instead of weapons systems, obviously still *"firepower"* counted most. Military operations should be quick and not cost many lives, *"speed"* therefore was most important: *"Rapid, violent, integrated, simultaneous military operations conducted speedily in locations that will overwhelm the enemy's decision cycle and response time will defeat the enemy with a minimal loss of American lives."*[702] And the Army here as well expertly took the post-heroism stance as the Air Force had done before. Lives of American soldiers had to be spared by technological overmatch. The violence cited still imposed the image of extremely powerful weapons clashing and unleashing their *"firepower,"* but other voices had already warned that the enemy could be seen and located. However, his intentions could not. General Montgomery C. Meigs, *Commander of United States Army Europe and 7th Army*, wrote in 2001:

> *"In spite of the precision and speed of information, fog and friction will continue to bedevil military operations. Fatigue, confusion, fear, and the effects of stress wear down the ability of units to execute competently. Despite the growing visibility of the enemy as he moves equipment on the battlefield under the watchful attention of our sensors, our sense of his will and intent will remain vague. Ubiquitous technologies for encryption, passive measures like camouflage, and low-tech countermeasures will see to that."*[703]

Montgomery here was referring to Clausewitz' concept of fog and friction and he was trying to show that Krepinevich' *Streetfighter State* was still possible despite all the technological means available. Nonetheless, the Army went straight on its path to the *Objective Force*. The weapon system which should be that deployable and networked to be faster than its enemies was then dubbed the *Future Combat System* (FCS). It should be formed from different, lightweight, tracked, networked vehicles, driving and flying through the battlefield. These systems would then have an advantage over the enemy's weapons thanks to their networked fashion and the resulting *information superiority*: *"Achieving information superiority increases the speed of command preempting adversary options, creates new options, and improves the effectiveness of selected options. This promises to bring operations*

[701] Baehr, Brad / Byrum, J.G. / Houston, Thomas D.: Space: Enabling Army Transformation, in: Military Review, November-December 2001, p. 35-41, here p. 40.
[702] Baehr / Byrum / Houston, Space: Enabling Army Transformation, p. 41.
[703] Meigs, Montgomery C.: Operational Art in the New Century, in: Parameters, Spring 2001, P. 4-14.

to a successful conclusion more rapidly at a lower cost."[704] Here again, one can note the cost argument. David S. Alberts, John J. Garstka und Frederick P. Stein argued in their February 2000 study:

> *"NCW focuses on the combat power that can be generated from the effective linking or networking of the warfighting enterprise. It is characterized by the ability of geographically dispersed forces (consisting of entities) to create a high level of shared battlespace awareness that can be exploited via self-synchronization and other network-centric operations to achieve commanders' intent."*[705]

Now there would be not only *"synchronization"*, but indeed even *self-synchronization*, a dream about a common picture which is enabled to self-synchronize thanks to modern computer systems. Not only the FCS but it especially should be more adaptable to the *battlespace* than *legacy* (in-service versus *transformational*) systems*: "The net result will be a dynamically re-configurable force that can take on the characteristics best suited for fast-paced battlespace domains where opportunities are fleeting and delay can be fatal."*[706] Re-configurable could hereby as well be some sort of modularity – having different types of systems which can in different compositions do different tasks. And so *"effectiveness"* was one of the main arguments in favor of the networked force:

> *"NCW offers a promising opportunity to both improve the effectiveness of military operations and to reduce their costs (measured in terms such as number of casualties, collateral damage, and strategic fallout). It promises to raise the art of war to new heights and enables us to compress military campaigns into time frames to be more consistent with our 21st century world."*[707]

New arts or ways of war had to be expected, again thanks to technology. The NCW force should dominate its enemies:

> *"At its most fundamental level, war is a brutal contest of wills. Winning decisively means dominating our enemies. Potential opponents must be convinced that we are able to break them physically and psychologically and that we are willing to bear the cost of doing so. For some opponents, mere punishment from afar is not enough. With these*

[704] Alberts, David S. / Garstka, John J. / Stein, Frederick P.: Network centric warfare: developing and leveraging information superiority, 2nd Edition (Revised), DoD C4ISR Cooperative Research Program, Washington, D.C., February 2000, p. 55.
[705] Alberts / Garstka / Stein, Network centric warfare, p. 88.
[706] Ibid. p. 120f.
[707] Ibid. p. 186.

adversaries, the only way to guarantee victory is to put our boots on the ground, impose ourselves on his territory, and destroy him in his sanctuaries."[708]

Referring again to Clausewitz (*"war as a contest of wills*"), the authors imagined the *Objective Force* to close with the enemy and beat him, again referring to the *"boots on the ground".* The Air Force could not close with the enemy from afar; only ground forces could break them not only physically but also mentally. And the NCW units should be *dispersed*, but *"mass"* their *"firepower"*, as Commander Paul Murdock, a retired United States Navy officer and consultant in Saudi Arabia, teaching a six-month course modeled on the *United States Naval War College* curriculum, wrote in *Parameters*:

"First, network-centric warfare could permit a geographically dispersed force to operate as a system – in effect, as a dispersed mass. That is, such a force, though its elements might be spread over a large area, should be able to concentrate precision weapons rapidly upon targets hundreds of miles away. Further, its units may be able to mass fires not only with decisive effect but without needing to maneuver – without, that is, having to get closer to targets, avoid geographical constraints, or achieve some positional advantage."[709]

Murdock now even imagined *"firepower" without "maneuver".* Dispersed elements did not anymore have to *"mass";* they could affect their enemy in a dispersed fashion, concentrating their *"firepower"* (*"effectiveness"*). John D. Norwood argued similarly in favor of a more networked force in a 2001 *Army War College* study: *"It is possible to envision combat in the future where real-time intelligence, combined with robotic systems using largely non-lethal means could quickly and decisively render an industrial age force combat ineffective."*[710] Norwood here brought unmanned systems – a new element – into the game. Norwood also argued against traditional, heavy vehicles: *"The tank may be an industrial-age weapon system that has seen its day. All other battlefield operating systems from aviation to artillery must be similarly scrutinized to determine how they will fit into combat operations in the future."*[711] But at the same time Norwood also cautioned that not all the technologies envisioned in the realm of the *Objective Force* or FCS were already available and working

[708] Concept for the Objective Force: Concept Summary, p. 1.
[709] Murdock, Paul: Principles of War on the Network-Centric Battlefield: Mass and Economy of Force, in: Parameters, Spring 2002, P. 86-95.
[710] Norwood, John D.: The objective force: are we on the right track?, USAWC Strategy Research Project, United States Army War College, Carlisle, PA, 2001, p. 5.
[711] Norwood, The objective force: are we on the right track?, p. 5f.

properly: *"Many of the nascent concepts being considered for the Objective Force place heavy reliance on remote sensing and robotic platforms; however, neither of these technologies is currently on revolutionary timelines."*[712] Dr. David Jablonsky, retired Army Colonel and professor of national security affairs in the *Department of National Security and Strategy* at the *United States Army War College*, wrote similarly: *"There is no guarantee, for example, that the technology for the Objective Force will materialize, potentially leaving a 'worst-of-both-worlds' force that could still consume substantial amounts of strategic lift, while lacking combat punch and sustainability. Nor is it ever a certainty that some new technological variant will be correctly understood."*[713] But not everyone was satisfied with the imagined *Way of War*. David Isenberg, an analyst in the *Arms Control and Threat Reduction Division*, *DynMeridian*, in *Military Review*: *"Major conflicts remain not only possible but probable. However, unlike Federal Express packages, US ground forces do no really have to get there overnight. To makes US forces formidable when they do arrive, heavy weapons systems, such as Crusader*[714]*, are still good investments both for the 21st-century Army and national security in an uncertain world."*[715] Isenberg therefore did not see why the Army's forces would have to be that fast and rapidly deployable. Others argued in favor of heavier *legacy* systems, which enemy forces would still have when FCS is fielded. Brian J. Dunn, a nonpartisan research analyst for the *Michigan Legislative Bureau: "A dangerous assumption is to think victory is certain and the only challenge is getting to the theater fast enough. If MBTs maintain their dominance with suitable modifications, enemies will have a tremendous advantage over the revolutionary FCS."*[716] Dunn would then even argue that the Army wanted possibly too much from FCS: *"The Army must field an FCS to be lighter, faster, and more agile than the Cold War Army yet still meet threats in 2025. We are clearly asking too much of this envisioned FCS. […] Envisioned capabilities include flying, tremendous sprint speed, self-healing attributes, and blasting or disabling weapons."*[717]

[712] Norwood, The objective force: are we on the right track?, p. 7.
[713] Jablonsky, David: Army Transformation: A Tale of Two Doctrines, in: Parameters, Autumn 2001, P. 43-62.
[714] The *XM2001 Crusader* was developed to be the United States Army's next generation self-propelled howitzer. Deemed not mobile enough, its development was cancelled in 2002 by then Secretary of Defense Donald H. Rumsfeld.
[715] Isenberg, David: Is Army Deployability Overemphasized?, in: Military Review, July-August 2001, p. 16-17, here p. 17.
[716] Dunn, Brian J.: Equipping the Objective Force, in: Military Review, May-June 2002, p. 28-33, here p. 31.
[717] Ibid. p. 28.

Nonetheless, it seemed like the Army would try to somehow keep up with the future image of war the Air Force was already envisioning since *Desert Storm*. It was essential to the Army to prove how Landpower was still necessary; the Air Force could not beat the enemy from a distance. In the near future, Army units would *dominate* the enemy with technologically refined means. Jablonsky analyzed correctly: *"Nevertheless, there was an urgency to the transformation process for the Army, concerned with becoming more relevant in a rapidly changing geostrategic environment in which strategic speed and lethality could no longer successfully exist as separate variables."*[718] The Army tested its new concept in war games like *Dominant Warrior*. Lieutenant Colonel Bo Barbour, United States Army, retired, a Senior Military Analyst for the *Illinois Institute of Technology Research Institute*; and Lieutenant Colonel Bill Hix, assigned to HQ, TRADOC, wrote about the exercises: *"The US Army's mentally and physically agile forces the end state of Army Transformation were twice as lethal and had about half the deployment and logistic footprint of previous US armed forces."*[719] And the war game had apparently shown how fast the force could be *projected*:

> *"During the war game, employing land power early in crisis response deterred and stabilized the conflict by precluding the adversary from rapidly achieving operational objectives. This outcome required a joint, early application of force with the clear signal that overwhelming decisive force was rapidly building momentum. The capability to project a combat brigade in 96 hours, an Army division in 120 hours and five divisions in 30 days created an overwhelming challenge for the adversary."*[720]

An "asymmetric" enemy

But others in the Army community asked what, then, the enemy would potentially do about the United States' plans. He could possibly stall any decisive battles, as Jacob W. Kipp, a senior analyst, and Lieutenant Colonel Lester W. Grau, a military analyst with the *Foreign Military Studies Office*, wrote: *"The side with the less-robust technology can offset this disadvantage by changing the nature of the conflict from a war of annihilation to a war of attrition."*[721] The aforementioned David L. Grange, Chuck Jarnot and Richard D. Liebert, wrote:

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[718] Jablonsky, A Tale of Two Doctrines, p. 43-62.
[719] Barbour, Bo / Hix, Bill: Dominant Warrior: An Objective Force at War in 2015, in: Military Review, January-February 2001, p. 86-89, here p. 86.
[720] Barbour / Hix: Dominant Warrior, p. 88.
[721] Grau, Lester W. / Kipp, Jacob W.: The Fog and Friction of Technology, in: Military Review, September-October 2001, p. 88-97, here p. 96.

> *"Potential adversaries recognize our dependency on secure ports and airfields along with the time required to build combat power. It is unlikely that US forces will be allowed Desert Storm buildup luxuries in future conflicts. Dangerous geopolitical and technological trends, along with antiaccess weapons such as long-range missiles and weapons of mass destruction, demand an extended-range, power-projection, forced-entry capability."*[722]

Here a first glimpse of the A2/AD discourse can be seen. The enemy in turn was watching the United States' capabilities and trying to adapt:

> *"At the same time, potential future adversaries are studying the U.S. closely, learning from our operations and adapting selected advanced capabilities and innovative strategies to overcome U.S. military dominance, particularly with respect to ground forces. Weapons of mass effects and destruction, and cyber attacks will be a part of the threat framework."*[723]

The *Objective Force White Paper* itself contained warning notices: *"The operating environment brings new challenges and threats to U.S. C4 capabilities as resourceful adversaries recognize and attempt to counter U.S. dependence on information superiority and situational understanding."*[724] Edward T. Bohnemann described in a *Command and General Staff College* study, how future adversaries would somehow try to circumvent the United States Armed Forces technological superiority:

> *"Adversaries attempting to challenge the United States are unlikely to match it with firepower alone, but are more likely to attempt to counter the technology overmatch by using unconventional means, such as fighting within cities or using chemical or biological weapons. As we prepare to face our next adversary, we must look to conflicts in the Balkans, Somalia, Chechnya, or Afghanistan for the pertinent lessons learned about the face of modern warfare."*[725]

But somehow the thinking did not get away from the fight against a state which should form the enemy:

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[722] Grange / Jarnot / Liebert, Airmechanization, p. 11.
[723] Concept for the Objective Force: Concept Summary, p. 3.
[724] The Objective Force in 2015, p. 17.
[725] Bohnemann, Edward T.: Rapid, Decisive Operations: The Execution of Operational Art by a Standing Joint Task Force, United States Army School of Advanced Military Studies, United States Army Command and General Staff College, Fort Leavenworth, KS, 2002, p. 3.

> *"In the near future, the United States is not likely to face an enemy willing to fight another conventional war as fought by the Iraqis during Desert Storm, but will attempt to fight using asymmetric means. The use of weapons of mass destruction, denial of lodgment areas, more integrated air defense systems, and the use of special force type units against softer targets will likely be the norm."*[726]

WMD were one of the main threats as identified by the Bush administration. However, the Army's leader hereby did not resort to the *Streetfighter* idea, which early in the 1990s was seen as a realistic threat or type of enemy. However, Robert Martinage and Michael Vickers from the *Center for Strategic and Budgetary Assessments* (CSBA), a think tank working for the United States Government, wrote in 2001:

> *"It is at least theoretically possible that a future adversary could denude the United States of critical space-based assets in a bolt from the blue. A preemptive strike could, for example, involve the coordinated use of CNA [Computer Network Attack] capabilities; ground-based ASATs [Anti-satellite Weapon] of various types; prepositioned, co-orbital microsatellites capable of conducting lethal proximity operations; and perhaps, space-based, ASAT platforms that employ a DE [Directed Energy] beam to destroy or disable U.S. satellites."*[727]

Air defense weapons were also part of the mix an enemy could use against United States Airpower, as Colonel Robert E. Chapman II, wrote in the *Aerospace Power Journal* in 2002: *"A number of potential adversaries are pursuing advanced weapons systems that could deny or restrict America's future ability to project combat power abroad. Of particular concern are increasingly lethal integrated air defense systems (IADS) and mobile surface-to-surface missile systems."*[728] But *high-tech* weapons could also be jammed, as Major Tracy A. Ralphs, an imagery and intelligence officer with the United States Army Military Traffic Management Command Transportation Engineering Agency, argued: *"Threats could easily and quickly build and deploy cheap but numerous, effective jammers to defeat GPS-guided weapons."*[729] Future enemies could indeed attack the United States Armed Forces' vulnerabilities *asymmetrical*. Alberts and his co-authors wrote similarly in their 2000 study: *"The increasing*

[726] Bohnemann, Rapid, Decisive Operations, p. 6.
[727] Martinage, Robert / Vickers, Michael: Future Warfare 20XX Wargame Series: Lessons Learned Report, Center for Strategic and Budgetary Assessments (CSBA), Prepared for OSD Net Assessment, December 2001, p. 30f.
[728] Chapman II, Robert E.: Unmanned Combat Aerial Vehicles – Dawn of a New Age?, in: Aerospace Power Journal, Summer 2002, p. 60-73, here p. 60-61.
[729] Ralphs, Tracy A.: Tactically Responsive Firepower, in: Military Review, July-August 2001, p. 55-64, here p. 60.

availability and affordability of information, information technologies, and Information Age weapons increases the potential for creating formidable foes from impotent adversaries."[730] And Steven Metz argued similarly:

> *"In a future where enemies have some precision guided munitions and weapons of mass destruction (along with delivery systems), in-theater sanctuaries may not exist. […] An enemy using a counter-deployment strategy would have to be met with a combination of strategic airpower, naval strike forces, theater air superiority, theater missile defense, focused logistics to minimize the supplies needed in theater, and a range of methods to limit the need for a lengthy build-up of forces, equipment, and supplies."*[731]

The scenario as described by Metz would later be named as *anti-access* threat or A2/AD, describing how enemies could deny the United States Armed Forces to enter an area of operations.[732] However, some authors cautioned how the enemy would not even have to be equipped with other *high-tech* weapons. He could as well be using cheap things. Colonel James K. Greer, director of the *School of Advanced Military Studies*, wrote in 2002:

> *"Rather than facing opponents trained and equipped to fight along the lines of the old Soviet model, the Armed Forces will face opponents who will combine conventional, unconventional, and information operations in a variety of new and effective ways. Those opponents will take advantage of the global proliferation of cheap, high-technology weapons systems to modernize selected portions of their armed forces, while seeking to take advantage of low-technology asymmetrical approaches to offset the United States' high-end warfighting dominance."*[733]

With *"asymmetry"* the growing imbalance between the technologically advanced and less advanced enemies was circumscribed. David J. Shaughnessy, senior intelligence analyst, and Lieutenant Colonel Thomas M. Cowan, a military intelligence officer for HQ TRADOC wrote in 2002: *"It remains clear that any campaign conducted against the United States, today or in the foreseeable future, will be a mix of asymmetric, adaptive, and conventional operations against the nation's vulnerabilities."*[734] But *high-tech* supporters used the *"asymmetry"* argument to promote even more technology: *"Defending the nation and its vital interests in*

[730] Alberts / Garstka, / Stein, Network centric warfare, p. 19.
[731] Metz, Armed conflict in the 21st century, p. 41f.
[732] See chapter 3.4
[733] Greer, James K.: Operational Art for the Objective Force, in: Military Review, September-October 2002, p. 22-29, here p. 24.
[734] Cowan, Thomas M. / Shaughnessy, David J.: Attack on America, in: Military Review, November-December 2001, p. 2-9, here p. 2.

the future will involve more of an emphasis on asymmetrical threats and the conduct of operations other than war."[735] And: *"Asymmetric warfare involves each side playing by its own set of rules, determined by their respective strengths and attempts to exploit an adversary's weakness. It is a far cry from the tank on tank battles or naval engagements of the past."*[736] With these arguments, supporters of NCW and the FCS would then seek to replace older, heavy units such as tank battalions with smaller, more networked systems. Yet somehow the fight between nations was still the main scenario. At least smaller operations were included in the discussions: *"While the Army must remain optimized for major theater war, it must be sufficiently versatile and agile to handle smaller-scale contingencies which will occur more often, presenting unique challenges."*[737] *Full-spectrum operations* included war and OOTW in the 2001 FM 3-0.[738] But authors such as Dr. Thomas Hughes criticized nonetheless:

> *"Although many observers view MOOTW as far more likely than war in the near term, military professionals have long been ambivalent toward operations short of war. In their doctrine, they have sought to fire-wall MOOTW from war by espousing very different principles for each; war is guided by offensive, surprise, and mass, while MOOTW relies on restraint, perseverance, and legitimacy."*[739]

Nonetheless, the discussions in the publications revealed some thoughts on the modern battlefield reality. Major Michael A. Carlino, *Battalion Operations Officer in the 1st Battalion, 6th Infantry Regiment, 1st Armored Division, Baumholder, Germany*, wrote in a 2002 article in *Parameters*: *"However, the nature of the modern battlefield inherently blurs the distinction between combatants and noncombatants; soldiers and civilians are now inextricably woven together in an amorphous battle space, and so the age of segregated battlefields has all but vanished."*[740] The blurring of civilians and combatants would be even more visible in an urban setting. A group of authors wrote in *Military Review*: *"The United States has obvious capability and power advantages over potential adversaries. To offset those advantages, adversaries may attempt to exploit perceived U.S. weaknesses by using asymmetric operational strategies, tactics, and techniques using urban terrain and*

[735] Alberts / Garstka, / Stein, Network centric warfare, p. 224.
[736] Ibid. p. 224f.
[737] Concept for the Objective Force: Concept Summary, p. 3.
[738] Kretchik, U.S. Army Doctrine, p. 248.
[739] Hughes, Thomas: The Cult of the Quick, in: Aerospace Power Journal, Winter 2001, p. 57-68, here p. 66.
[740] Carlino, Michael A.: The Moral Limits of Strategic Attack, in: Parameters, Spring 2002, P. 15-29.

information operations."[741] Captain Steven E. Alexander, a small group instructor for the *Infantry Captain's Career Course*, *United States Army Infantry School*, argued: *"No modern force has achieved strategic-level victory through an offensive campaign waged in an urban environment. The simple fact is that doctrine based on offensive action loses tempo in severely restricted terrain. Any technological advantage an armed force might have is mitigated in similarly restricted terrain."*[742] And Harold S. Orenstein wrote with other contributing authors from the *Combined Arms Doctrine Directorate* (CADD): *"Urban environment – complex terrain, concentrated population, and an infrastructure of systems – is the operational environment in which Army forces will operate. It may be the predominant future operational environment."*[743] Not only would the urban area be predominant, it would as well somehow inhibit *high-tech* advantages, as Colonel Robert E. Chapman II, an Air Force officer, wrote in a *War College* study: *"The nature of the urban environment […] affects the strategic context by countering the American preference for rapid, decisive operations. It conjures perceptions of not only protracted conflict and casualties, but also the old American way of war centered on mass and firepower concepts."*[744] But another Air Force officer, Captain Troy S. Thomas, countered: *"Depending on the circumstances, precise air-power can be less destructive than imprecise land power and, therefore, valuable to the urban fight."*[745] Arguing in favor of another Airpower application, Thomas brought up the *"precision"* as favored by the Air Force. Coming back to the Army's new FM, one of the authors, Lieutenant Colonel Michael D. Burke, argued:

> *"FM 3-0 moves beyond war and military operations other than war (MOOTW) to the complex challenges of today's operating environment. It establishes full-spectrum operations as a flexible means of conceptualizing what the Army does during peace,*

[741] Baehr, Brad / Byrum, J.G. / Houston, Thomas D.: Space: Enabling Army Transformation, in: Military Review, November-December 2001, p. 35-41, here p. 35.
[742] Alexander, Steven E.: Urban Warfare: U.S. Forces in Future Conflicts, in: Military Review, January-February 2002, p. 83-85, here p. 83.
[743] Orenstein, Harold S. et al: Further Combined Arms Doctrine, in: Military Review, March-April 2002, p. 85-90, here p. 86.
[744] Taylor, Charles L.: Military Transformation for Warfare in the 21st Century: Balancing implications of Urban Operations and emerging Joint Operational Concepts, United States Army War College, Carlisle, PA, 2002, p. 4f.
[745] Thomas, Troy S.: Slumlords – Aerospace Power in Urban Fights, in: Aerospace Power Journal, Spring 2002, p. 57-68, here p. 60.

conflict, and war. Every operation is a combination of the following types of military operations: offensive, defensive, stability, and support."[746]

Kretchik writes that the 2001 FM *3-0* was not only a tactical warfighting *Manual* alone, but it tried to reflect the realities of the post-Cold War world, where the Army was reliant upon other services for mission support as well as had to work with allied nations.[747]In its typology of operations, the 2001 FM *3-0* placed stability operations along with support operations (nonmilitary missions that covered disaster relief and aid to the civil authorities) alongside offensive and defensive operations as the Army's core missions. But in practice, *conventional* warfare remained the prime focus of the Army.[748] Chad C. Serena, who had himself done several deployments to Iraq and Afghanistan in the 2000s, wrote about the *Stryker Brigade Combat Team* (SBCT): *"The doctrine that the SBCT had to use or build upon was decidedly combat oriented and provided only scant instruction or guidance for operations or planning in MOOTW."*[749] The SBCT was conceived to be an Interim type of force until the *Objective Force* could be fielded. It was based on the Stryker family of *Light Armored Vehicles* (LAV). Having a networked layout, the SBCT should be able to even go after more powerful enemy formations. Serena criticized the NCW idea:

"Despite claims to the contrary, even if the SBCT were to achieve situational awareness and operational omniscience by incorporating the information technology capabilities of the RMA, situational awareness does not necessarily present as situational understanding, does not bestow predictive capacity and intent discernment, and does not allow for action in a time, place, and manner of the protagonist's choosing. The enemy has a vote in how any conflict situation develops and is perceived."[750]

The deployment goal for the SBCT was *"to place a credible combat force on the ground anywhere in the world in 96 hours from liftoff."*[751] But a 2002 RAND study came to the conclusion that this requirement would not be possible: *"The main conclusion of this report is that a force with more than 1,000 vehicles cannot be deployed by air from CONUS to the*

[746] Burke. Michael D.: FM 3-0: Doctrine for a Transforming Force, in: Military Review, March-April 2002, p. 91-97, here p. 94.
[747] Kretchik, U.S. Army Doctrine, p. 255.
[748] Fitzgerald, Learning to forget, p. 118.
[749] Serena, Chad C.: A Revolution in Military Adaptation – The US Army in the Iraq War, Washington, DC, 2011, p. 48.
[750] Serena, A Revolution in Military Adaptation, p. 47.
[751] Headquarters, Department of the Army: Operational Requirements Document for a Family of Interim Armored Vehicles (IAV), Prepared for Milestone I Decision, Washington D.C., April 6, 2000, p. 2.

far reaches of the globe in four days."[752] But the vote the enemy had was not visible in the early 2000s, only later would the boundaries of the *Transformation* idea be acknowledged.

Effects-based Operations

The Rumsfeld concept of *Transformation* coincided with a paper by Air Force Lieutenant General Deptula about the *Effects-based Operations*. Deptula did not write about a *revolution* in *warfare* but rather about monumental changes, and he further developed Warden's concept:

> *"The capacity for a simultaneous attack on the entire array of high value objectives with little or no need to suppress enemy air defenses opens the door to monumental changes in the conduct of war – enables surprise at the tactical level, a larger span of influence, fewer casualties, paralyzing effects, and shorter time to impose effective control over the enemy."*[753]

Deptula did combine Warden's *paralyzing strategic attack* with the term *"effect"* and similarly imagined a certain amount of control over the enemy and therefore over warfare as well. He consolidated Warden's *Five Ring Model* and further emphasized that every possible entity could be thought of as a *system* (obviously a terrorist group, too!): *"Any political entity can be thought of as a system consisting of a number of subsystems, or to borrow a term coined in the former Air Force Systems Command – a system of systems."*[754] The obvious problem seems to be that if everything can be a *system of systems*, the *terminus* has no meaning at all. Everything is a *system* and it is impossible to determine which *systems* have a higher priority than others. Deptula as well utilized the *terminus paralysis*:

> *"Effective control of enough of the adversary's enabling operational level systems will paralyze his ability to function at the strategic level. At that stage, the enemy has no choice but acquiesce to the will of the controlling force or face ever increasing degrees of loss of control."*[755]

The *system* language of which the enemy consists was even more abstract with Deptula than with Warden. And Deptula saw physical destruction to be only an *"effect"*:

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[752] Vick, Alan et al: The Stryker Brigade Combat Team – Rethinking Strategic Responsiveness and Assessing Deployment Options, Prepared for the United States Air Force, Project AIR FORCE, Santa Monica, CA 2002, p. xiv.

[753] Deptula, David A.: Effects-based operations: Change in the nature of warfare, Arlington, 2001, p. 4f.

[754] Ibid.

[755] Deptula, Effects-based operations, p. 6.

> *"In this approach, destruction is used to achieve effects on each of the systems the enemy organization relies on to conduct operations or exert influence – not to destroy the systems, but to prevent them from being used as the adversary desires."*[756]

Air Force Colonel Edward Mann, Lieutenant Colonel Gary Endersby and Tom Searle wrote similarly: *"Focusing on the conditions desired – the effects – to achieve assigned objectives enables one to avoid focusing on pseudo-objectives, such as destruction."*[757] Moreover, Deptula differentiated the *serial* and the *parallel approach*:

> *"The serial approach targets those elements of an adversary's defenses that restrict access to targets of critical value. […] The ideal application of force in a parallel attack strategy to achieve rapid dominance involves the application of force against all targets in each target system at one time."*[758]

Deptula thus as well emphasized how the enemy *system* could be hit *simultaneously* at different *points*. But he did differ from Warden's idea in that he did still foresee *serial* attacks occur. And he argued as well in an Aerospace Power Journal article, how to overcome the aforementioned *anti-access* threat: *"Potential adversaries are taking advantage of various methods to deny US forces access to their centers of gravity. We must deny the enemy his antiaccess strategies through the use of stealthy, long-range platforms that can apply precise force with great rapidity."*[759] According to Deptula, it is no longer necessary to roll back enemy ground and air forces in advance; he cites different politicians and military decision-makers to prove that point, though without explicitly stating it himself. Deptula as well used the *terminus center of gravity* and spoke about the usefulness of ground forces: *"Surface forces will always be an essential part of the military, but massing surface forces to overwhelm an enemy is no longer an absolute prerequisite to impose control over the enemy."*[760] Deptula thereby escalated the idea of the *decisive* airstrike (against the backdrop of the budget discussion) further. It is indeed possible to argue that the deployment of a mechanized unit does imply much more effort necessary than an attack by *Stealth* aircraft.

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[756] Deptula, Effects-based operations, p. 11.
[757] Endersby, Gary / Mann, Edward / Searle, Tom: Dominant Effects: Effects-Based Joint Operations, in: Aerospace Power Journal, Fall 2001, p. 92-100, here p. 93.
[758] Endersby / Mann / Searle, Dominant Effects, p. 14.
[759] Deptula, David A.: Air Force Transformation – Past, Present, and Future, in: Aerospace Power Journal, Fall 2001, p. 85-91, here p. 90.
[760] Deptula, Effects-based operations, p. 18. In April 2001 Deptula published an article about EBO in the *Air Force Magazine*, cf. Deptula, David A.: Firing for Effects, in: Air Force Magazine, April 2001, p. 46-53, here p. 46-48.

Nonetheless, the *"effect"* would be very different, if one argues in favor of a more ground-centered approach; only Landpower could, according to its proponents, *decisively* beat an enemy by occupying ground. A similar image of Airpower presented the editor-in-chief of the *Air Force Magazine* in June 2001: *"In theater conflict, the first substantial force to engage the enemy will be advanced stealthy aircraft that open the door for other land, sea, and air forces to follow."*[761] This description seems to be a derivative of the *Halt Phase* concept and symbolizes the *hype* about the *Stealth* bomber still persistent. In a position paper Army Colonel Gary H. Cheek, contradicting, held the opinion that Airpower would as well in the future not be able to end a conflict: *"Thus, while air power is alluring because it does not require American soldiers on the ground, by itself it lacks the compelling force that ensures decision in conflict."*[762] He blamed the Airpower proponents for underestimating the enemy: *"Advocates of effects-based operations misread this trend in lethality, as if enemies will not be able to react to the use stealth and precision weapons."*[763] Cheek defined EBO as follows: *"By its nature, an effects-based operation is an analytical form of warfare; it anticipates events and enemy reactions, then acts, assesses, and acts again. It is analogous a chess match; methodical and deliberate – a contest of action and reaction."*[764] He saw the concept as being an attempt to convey some sort of *strategy game* to real war. But critics such as Colonel James K. Greer argued that a modern enemy would not be that easily analyzable: *"Centers of gravity, lines of operations, and decisive points are difficult to discern in a complex mix of political, economic, and military peacekeeping efforts in the Balkans or when attacking a worldwide, web-like, self-organizing, transnational terrorist organization such as al-Qaeda."*[765] But Lieutenant Colonel Phil M. Haun felt confident that Airpower would be able even to attack an adaptable enemy: *"Airpower can now destroy what it finds, however an enemy under air attack quickly adapts, using dispersal and deception to conceal its*

[761] Correll, John T.: Evolution of the Aerospace Force, in: Air Force Magazine, June 2001, p. 2.
[762] Cheek, Gary: Effects-based operations: The End of Dominant Maneuver?, in: Murray, Williamson (Hg.): Transformation Concepts for National Security in the 21st Century, Strategic Studies Institute of the United States Army War College (SSI), Carlisle, 2002, p. 73-100, here p. 86.
[763] Cheek, Effects-based operations, p. 88.
[764] Ibid. p. 92.
[765] Greer, James K.: Operational Art for the Objective Force, in: Military Review, September-October 2002, p. 22-29, here p. 26.

location. Based on the experience of Desert Storm and Allied Force, a systems approach is required to efficiently locate and attack such an enemy."[766]

Both officers in the Army and the Air Force were convinced they could achieve specific *"effects"*; their argument was whether airplanes or troops were better calculated to achieve these effects. Cheek confronts this idea with a boxing fight: *"At the tactical level, war more closely resembles a boxing match than a game of chess. The boxer strives to deliver a rapid series of blows to weaken, then knock out his adversary, all while avoiding or absorbing the blows of his opponent."*[767] Here as well the differing point of view (or, heretical, flying height) of the advocates of the various branches can be seen. Bradley J. Smith argued in favor of the Airpower idea in a 2002 Army War College Study: *"Employing airpower inherently places fewer friendly forces at risk than employing conventional ground forces. A large air operation might place a few hundred airman at risk at any one time, while deploying a single army brigade potentially places thousands at risk."*[768] Air Force Lieutenant Colonel Price T. Bingham argued similarly: *"The same technologies that make it feasible to target an enemy's military vehicles also provide the advantage of dramatically reducing the risks facing friendly military personnel. On the ground, stopping militarily significant enemy movement would mean that friendly forces would have less need to fight powerful enemy units."*[769] There was even again the recurring *Desert Storm* idea. Colonel Phillip S. Meilinger, brought up the *"efficiency"* as well alongside the reduction of casualties: *"In short, modern air warfare has reduced casualties among both the attackers and the attacked, thus making it an increasingly efficient, effective, and humane tool of American foreign policy."*[770] Meilinger here conceded that there would be casualties on both sides and, arguing in a clausewitzian way, in his eyes war and in this case Airpower was an instrument for the politicians. And Bingham argued how ground forces should assist Airpower more instead of fighting themselves: *"In contrast to what they do in today's training, Army and Marine Corps forces must design their land maneuver to make US air forces more effective at targeting*

[766] Haun, Phil M.: Air Power versus a fielded Army: A construct for Air Operations in the 21st century, A research report submitted to the Faculty in partial fulfillment of the graduation requirements, Air Command and Staff College, Air University, Maxwell Air Force Base, AL, April 2001, p. 36.
[767] Haun, Air Power versus a fielded Army, p. 36.
[768] Smith, On politics and Airpower, p. 2.
[769] Bingham, Price T.: Air Power Targeting Theory: A Key Element in Transformation, in: Military Review, May-June 2002, p. 34-39, here p. 38.
[770] Meilinger, Phillip S.: Precision Aerospace Power, Discrimination, and the Future of War, in: Aerospace Power Journal, Fall 2001, p. 12-20, here p. 19. 13.

opposing forces without becoming engaged in costly close combat."[771] And all of this only served *"efficiency"*: *"Effects-based joint operations would increase strategic options by permitting US personnel to achieve success faster, more efficiently, and with less risk than is possible in operations that depend primarily on physical attrition and the close battle to defeat enemy land forces."*[772] Here it seems appropriate to ask for the contents of the term *"efficiency"* as well: less costly in money, faster, or less casualties? It remains unclear and seems as well to be a buzzword. Not having to risk the lives of soldiers on the ground was a recurring proposition of Airpower supporters. And for sure, wars should be over quickly, therefore the important notion of *"speed"* as well. The other main argument was and would be for the time to come, the *"efficiency"*:

> *"Effects Based Operations focus not on individual targets but the strategic and operational effects that the warfighter wants to create. Using systems-based intelligence, one then determines the best targets to hit in parallel to create the desired effect on the entire system. In many cases, effects based operations are more efficient than merely servicing a target list in priority order because all targets in a given system need not be destroyed to create a system-wide failure."*[773]

And Smith brought as well the *paralysis* idea: *"This simultaneous, or parallel attack can create parallel effects, leaving the enemy with multiple crises to deal with. The goal of parallel attack is to create strategic paralysis wherein an enemy faced with simultaneous breakdowns at the strategic, operational and tactical level loses its effectiveness and ceases to operate as a coherent force."*[774] Navy Commander Paul Murdock argued similarly in favor of the *"effects"* language:

> *"The effects are what is important. The goal of war is to achieve political goals by using organized violence to influence the mind and behavior of the enemy leadership. Joint doctrine duly refers to massing effects 'to achieve decisive results.' The idea is to achieve such a strong impact as to compel the enemy to accept the political goals of one's*

[771] Bingham, Price T.: Transforming Warfare with Effects-Based Joint Operations, in: Aerospace Power Journal, Spring 2001, p. 58-66, here p. 66.
[772] Ibid. p. 59.
[773] Smith, On politics and Airpower, p. 6f.
[774] Ibid. p. 8.

government. To mass effects that do not contribute to this end is to practice poor operational art."[775]

Murdock again stated in the clausewitzian sense, how military power was an instrument for politics. And he as well used Deptula's *parallel terminus*: *"Parallel war might be able to "lock out" (preclude) options, create despair, even lead the enemy to give up. The point is that to achieve results of such magnitude, fires must often be distributed, coming from diverse locations, killing the enemy not with one massive blow but by 'a thousand vital cuts' that collectively induce a paralyzing hemorrhage of will."*[776] And here Murdock goes back to the human corpse language as well.

For the EBO idea it is further necessary to cast a scrutinizing glance in the new edition of the AFDD *1* from 2003. This *Manual* did dedicate two huge chapters on one side to the *Principles and Tenets*, and on the other side to the Ro*les, Missions, and Functions of Air and Space Power*. Already at the beginning of that publication some basics related to Air Force doctrine were explained, such as: *"Doctrine is about effects...not platforms. This focuses on the desired outcome of a particular action, not on the system or weapon itself that provides the effect. "*[777] The *"effect"* was here even more abstracted. The disengagement from the acting *platform* corresponded strongly to Rumsfeld's *Transformation* idea and its ideal image of *Special Forces* guiding airstrikes while riding on a horseback. Under the title *Changing Character of the American Way of War* the reader as well could find this passage in the AFDD:

"Early airpower advocates argued that airpower could be decisive and could achieve strategic effects. While this view of airpower was not proved during their lifetimes, the more recent history of air and space power application, especially since the 1991 Persian Gulf War, has proven that air and space power can be a dominant and frequently the decisive element of combat in modern warfare."[778]

Here again *Desert Storm* was reactivated as starting point of the *"modern"* image of war of the United States Air Force. Afterwards as well a *New View of Conflict* was postulated, using again the term *culminating point* and the *terminus Halt Phase*: *"[…] in this new view of*

[775] Murdock, Paul: Principles of War on the Network-Centric Battlefield: Mass and Economy of Force, in: Parameters, Spring 2002, p. 86-95.
[776] Murdock, Principles of War on the Network-Centric Battlefield, p. 86-95.
[777] United States Air Force: Air Force Doctrine Document 1, 17 November 2003, here p. 5.
[778] AFDD 1, 2003, p. 15f.

warfare […] aggressive application of air and space power, in parallel operations against many objectives simultaneously, may force the enemy beyond his offensive culminating point, resulting in a turnover in initiative in our favor."[779] This language was to be read similarly to the *Systems Approach*: *"It is possible to directly affect adversary sources of strength and will to fight by creating shock and destroying enemy cohesion without close combat."*[780] But the authors did not mention the *center of gravity* and that was discussed: *"Curiously, there is no mention in the new AFDD of 'centers of gravity' – the assets of greatest strategic importance to the enemy – which was a leading operational concept and a staple of doctrine through the 1990s. Nor is there direct discussion of targeting the enemy's infrastructure, other than that which 'contributes directly' to the ground battle."*[781] It seems as if the community waited for EBO to take place even more in official documents as it did. As Lewis describes, the task of the Air Force was to hamper the flow of instruction through the enemy's *system*, *"and then move rapidly, faster than the enemy could respond, to destroy the brain, or sufficient parts of the central nervous system to paralyze the enemy and thereby achieve military and political objectives."*[782] The *"shock"* here as well played again an important role, immediately beneath the *"will"* of the enemy. At the same time, EBO was officially introduced in this *Manual*:

> *"A vital part of the new approach to warfare is the emerging arena of effects-based operations (EBO). A further step away from annihilation or attrition warfare, EBO explicitly and logically links the effects of individual tactical actions directly to desired military and political outcomes."*[783]

In this last *Manual* which was analyzed in the scope of this part, the mental reflections of the ten years since the Gulf War in 1991 culminated. As Linn notes, the foreword to the 2003 AFDD *1* acknowledged the danger posed by *asymmetric* adversaries who threaten the nation with weapons of mass destruction, terrorism, and *information attacks*, as stipulated by the Bush administration. But to counter these threats the *Manual* reiterated earlier concepts for the most part, such as EBO and *"precision"* strike, and the authors did view the early experiences of operations in Iraq and Afghanistan as further vindication of these

[779] AFDD 1, 2003, p. 17.
[780] Ibid. p. 17.
[781] Correll, John T.: Basic Beliefs, in: Air Force Magazine, June 2004, p. 42-47, here p. 46.
[782] Lewis, The American Culture of War, p. 379.
[783] Ibid. p. 18.

approaches.[784] But indeed, Army and Air Force leaders did not see that many of the United States' emerging post-Cold War adversaries would have little interest to challenge the United States Armed Forces *conventionally* even if they were able to do so.[785]

The image of war of the United States Air Force comprised now, in the ideal case, single *precise* airstrikes to stop an aggressor before the deployment of ground forces became necessary. The Army on the other side throbbed on its still *decisive* role in the scope of the *Full Spectrum Operations*, even though it had interestingly incorporated the *terminology* of the *Effects-based Operations*. Contrary to the recommendations of some higher-ranking officers[786] the United States Armed Forces invaded Iraq in spring 2003 with the strategy *Shock and Awe*, without having deployed enough ground forces for the subsequent occupation. Against an enemy who was not (or no longer) capable of *maneuver warfare,* a handful of United States units supported by airstrikes beat the Iraqi Army in the field. In the following years the United States had to cope with an *insurgency* which made the massive deployment of additional troops necessary, as will be further described in the following, third part of this thesis.

2.7 Interim conclusion: towards a *New American Way of War*

To conclude this second part, it seems appropriate to recap some of the main ideas and discussions in the prominent discourses. At the beginning of the 1990s, the much-heralded success of Airpower in Operation *Desert Storm* did on one side rather increase single-service parochialism instead of improving the combination of the air-ground team, the so-called *joint operations*.[787] Others would then suggest as well that the coalition's success on the ground was not just a product of Airpower and modern technology, but as well a result of the carefully developed doctrine and training of the United States Army and Marine Corps.[788] On the other side, clearly, Saddam Hussein's Iraqi forces were no match, neither doctrinally nor ideologically, technically or regarding their training.

But Airpower and the related technologies (*Stealth* and *PGM* especially) would be a dominating discourse throughout the 1990s. The belief that Airpower could replace soldiers on the ground would become a tenet of American military thinking about the conduct of war

[784] Linn, The U.S. Armed Forces' View of War, p. 53.
[785] Serena, A Revolution in Military Adaptation, p. 45.
[786] Among others the *United States Army Chief of Staff,* General Eric Ken „Rick" Shinseki**.**
[787] House, Combined Arms Warfare, p. 271.
[788] Ibid. p. 273.

beginning with the 2000s.[789] The discourse on Airpower brought new terms into the language and thinking of airmen or changed their meanings. *"Firepower"* could now be *precisely* delivered from the Air. *"Speed"* did not anymore stand for an armored thrust of a Warsaw Pact *"mass"*: it was one of the main advantages Airpower had over Landpower which was deemed too slow and even *inefficient*. And the enemy would be dissected like a human corpse with a *scalpel*, *paralyzed* by *strategic attacks* with PGM-toting *Stealth*-bombers. From its *"elevated vantage points"*, Airpower could *halt* enemy attacks; and it could spare the lives of own troops – or even of enemy ones – making war more acceptable, taking a smaller blood toll overall in times when heroes dying was less acceptable than in other decades.

But in the Landpower discourse, not only the Air Force, the Army as well was inclined to foresee a more technologically-driven type of war during the second part of the decade. In search of a new enemy after the collapse of the USSR, the Army later-on constructed its own newly imagined enemy that would have to be beaten on the *information age battlespace*. Whereas the battlefield discourse had foreseen a more or less flat geographical area covered by air, now *battlespace* incorporated the *"information"* domain, as well as space, and last, but not least, cyberspace. *"Firepower"* was to be applied to an enemy who was *shocked* and therefore could only be on the receiving end. *"Firepower"* would be *"mass"* for *"effect"* by dispersed forces on the new *battlespace*. Smaller, lighter forces had to be more *efficient* as well and the war had to be clean on the ground also, without casualties at best, easily seen from the TV screens of the post-heroic society.

During the 1990s, Army and Air Force imagined enemies that would rather not appear, neither in Somalia nor over Kosovo. House argues that military organizations had always existed to apply maximum force against a clearly defined enemy, not to use minimum force in a quasi-police role, which the United States Armed Forces did sporadically during the 1990s.[790] Neither LIC nor MOOTW really brought changes into the image of war or into the enemy discourse; terms such as *"asymmetry"* or *termini* such as *other than war* only helped to marginalize other forms of violence which the Army (and Air Force) leadership did obviously not like to imagine. Interventions or MOOTW did not fit into the United States Armed Forces idea of war or their envisioned purpose. For interventions Airpower appeared

[789] Lewis, The American Culture of War, p. 381.
[790] House, Combined Arms Warfare, p. 279.

to offer the best available ability to first coerce Iraq through so-called no-fly zones, then intervene in the Balkans, and lastly retaliate against terrorist groups while avoiding the difficult decisions associated with a sustained commitment of ground forces, as House describes further.[791]

Not only Airpower but as well computers should help the United States to win wars faster, cheaper, and more *decisively*; this idea coupled with the societal recess from war as a whole spurred the discussion about the RMA in the 1990s, dominating the technology discourse. Its proponents saw an opportunity to pursue new ways of war and buy sophisticated *high-tech* weapons.[792] Dima Adamsky sees the tendency of the United States Armed Forces to transform the nation's material superiority into battlefield *"effectiveness"* by pursuing a strategy of attrition and annihilating the enemy with *"firepower"* and technological means, given its abundant material resources, troops' equipment, and excellent managerial expertise. Adamsky argues further that the United States for almost two hundred years did not face an enemy with a larger gross national product than its own, at least not solely.[793] And Adamsky finally sees the obvious strong bias toward techno-centric warfare as an essential component of American strategic behavior.[794]

The United States' obvious military might and technological superiority did as well change the discourse on the enemy. Whereas the United States had to face the Warsaw Pact during the Cold War, it now was factually superior to any other military might. That fact may have led to the techno-centric thinking about warfare and the scientific approach toward the enemy. In the end, seeing the enemy as a *system* and performing *center of gravity* analyses of that *system* seemed to be the beginning of a more sophisticated application of the *New American Way of war*. What then would be required to make this leap is the understanding that the enemy *system*, like any living thing, reacts both to external stimuli and attacks. And those reactions will never be fully predictable, as Kagan argues, because biological *systems* are too complex to permit completely accurate predictions of their behavior.[795]

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[791] Mahnken, Thomas G.: Weapons: the precision-strike regime, in: Kennedy, David M. (ed.): The modern American military, Oxford, 2013, p. 59-78, here p. 65 and Adamsky, The culture of military innovation, p. 86.
[792] Mahnken, Weapons: the precision-strike regime, p. 65f.
[793] Adamsky, The culture of military innovation, p. 78.
[794] Ibid. p. 85.
[795] Kagan, Frederick: Finding the Target: The Transformation of American Military Policy, New York, 2006, p. 396.

III. From *Counterinsurgency* to *AirSea Battle* (2001-2012)

3.1 Operations *Enduring* and *Iraqi Freedom*: *Transformation* and *Airpower* test bed

After the terrorist attacks on the World Trade Center in New York and the Pentagon on September 11th in 2001, the United States started offensive operations against Al-Qaeda and the Taliban regime in Afghanistan shortly thereafter (Operation *Enduring Freedom* or OEF). Later-on the Bush administration also planned and executed Operation *Iraqi Freedom* (OIF) against the regime of Saddam Hussein.[796] The so-called *Bush Doctrine* included, among other foreign policy principles, preemptive strikes or wars against perceived threats to the United States *National Security*.[797] This chapter will show the backlash and judgement of the conduct of both the aforementioned operations in the various military publications and studies with respect to the discussions about the *New American Way of War*, EBO and *Transformation*.

Operation Enduring Freedom

In Afghanistan, the United States initially only relied on Airpower and SOF on the ground in order to topple the Taliban regime in concert with indigenous forces. The idea that Airpower could enable less trained forces in combination with SOF to beat an opposing force got fast into the discourse on Airpower. Jeffrey Record, teaching strategy at the *Air War College*, proclaimed this as a possible future *modus operandi*:

> *"If weak and failed states are to dominate the US security agenda for the foreseeable future, and if America's political and military leadership remains casualty-phobic, and if advances in military technology permit use of force with little risk – then a combination of airpower, small supporting specialty ground force contingents (backed by regular ground forces held in reserve), and indigenous proxies is likely to become the US model for waging future war."*[798]

But Record as well acknowledged that there would still be the need for ground forces if the aims of a campaign did encompass more than only toppling a regime: *"Obviously, our new way of war is of limited value in situations requiring the conquest, occupation, and*

[796] Serena, A Revolution in Military Adaptation, p. 44.
[797] Ibid. p. 50.
[798] Record, Jeffrey: Collapsed Countries, Casualty Dread, and the New American Way of War, in: Parameters, Summer 2002, p. 4-23, here p. 19.

administration of territory. These missions require 'boots on the ground' in sizable numbers, although airpower would still serve as a powerful supporting arm."[799] Nonetheless John A. Tirpak, *Senior Editor* of the *Air Force Magazine*, wrote enthusiastically: *"The rapid success of Operation Enduring Freedom stemmed mainly from the unprecedented combination of massive airpower – much of it in the form of heavy bombers – with small numbers of special forces on the ground, indigenous troops, and the full press of US Intelligence, Surveillance, and Reconnaissance capabilities […]."*[800] And Rebecca Grant, then president of *IRIS Independent Research*, an organization that specializes in national security research for government and industry clients, argued similarly: *"In the first phase of Enduring Freedom, the joint air forces pulled off what critics had long said could not be done: They fought and won a sustained campaign with limited access to the region."*[801] But William R. Hawkins, *Senior Fellow for National Security Studies* at the *United States Business and Industry Council Educational Foundation*, did not see that big an accomplishment: *"US forces could attack Afghanistan with impunity. The only real challenge was the remote geography and lack of existing agreements with neighboring states regarding base rights. The military victory over the Taliban rabble looked easy because it was."*[802] And Stephen Biddle argued: *"The Afghan Model will not always work as it did in Afghanistan, because we will not always enjoy allies who match up so well against their enemies. But where we do, we can reasonably expect the Model to be roughly as lethal as it was last fall and winter."*[803] Biddle here did as well describe Operation *Enduring Freedom* as a *"model"* for or of war, revealing a scientific way of thinking about war. And in late 2002 Rebecca Grant still felt certain, that the combination of Airpower, *Special Forces* and indigenous allies could be a recipe for future interventions:

> *"With a minimum of collateral damage and bloodshed, the air strikes enabled the Northern Alliance to overcome the Taliban's numerical advantage and their supply of tanks, artillery, and vehicles and retake the 85 percent of Afghanistan once controlled by that oppressive regime. […] While this will not be the solution for every potential campaign, it is now beyond dispute as a proven model for coalition operations."*[804]

[799] Record, Collapsed Countries, p. 20.
[800] Tirpak, John A.: Enduring Freedom, in: Air Force Magazine, February 2002, p. 32-39, here p. 32.
[801] Grant, Rebecca: The War Nobody Expected, in: Air Force Magazine, April 2002, p. 34-40, here p. 40.
[802] Hawkins, William R.: What Not to Learn from Afghanistan, in: Parameters, Summer 2002, P. 24-32, here P. 26.
[803] Biddle Stephen : Afghanistan and the future of warfare: Implications for Army and Defense policy, Strategic Studies Institute, U.S. Army War College, Carlisle, PA, November 2002, p. 49.
[804] Grant, Rebecca: An Air War Like No Other, in: Air Force Magazine, November 2002, p. 30-37, here p. 37.

Interestingly, there is no real analysis of the enemy to be found. Robert S. Dudney, the Editor in Chief of the *Air Force Magazine* wrote, rather triumphantly, in October 2002:

> *"Suddenly, it was over. The Taliban-Qaeda force that once controlled 85 percent of Afghanistan was, by early December, in control of nothing, on the run, and hiding in caves. Some attributed the rout to the presence of Afghan ground forces. […] Each US armed service (and those of allied forces) had a hand in the victory. Still, the Air Force contribution stood out."*[805]

Rebecca Grant would further herald the Airpower-SOF combination, still in 2011: *"It was only the beginning of the War on Terror, yet the first phase of the campaign delivered major victories – and hatched a new operating concept where precision strike and surveillance achieved goals with just a handful of special operations teams on the ground."*[806] Grant hereby did as well use the political branding that was used for Operation *Enduring Freedom*: *War on Terror*.

As soon as ground forces were induced in greater numbers, problems arose. Operation *Anaconda* was meant to rout and destroy Al-Qaida forces in 2002. However, the United States Armed Forces underestimated the quality and quantity of enemy forces in the valley where the battle took place. And discussions arose as well about the *"effectiveness"* of allied air support. Rebecca Grant described the operation as a success in the end, again thanks to Airpower: "*After initial contact sparked heavy fighting, airpower was called in to provide close air support and later to herd and pound the enemy. Ultimately, Operation Anaconda was a success, due in no small part to the contributions of airpower and the bravery and heroism of those on the ground and in the air alike."*[807] Problems and losses were attributed to flawed planning by the Army and certainly not to the limits of Airpower. John A. Tirpak and Adam J. Hebert wrote: *"In Anaconda, the Army complained, it didn't get enough close air support, although it hadn't even told the Air Force what was being planned until the 11th hour."*[808] And Rebecca Grant did as well criticize the preparations:

> *"One clear lesson was that air-ground coordination – a stunning success in the earlier phases of Operation Enduring Freedom – was given short shrift in the original planning for Operation Anaconda. The 72-hour operation stretched over more than two weeks,*

[805] Dudney, Robert S.: Beat the Devil, in: Air Force Magazine, October 2002, p. 2
[806] Grant, Rebecca: Enduring Freedom's New Approach, in: Air Force Magazine, October 2011, p. 62-67, here p. 63.
[807] Grant, Rebecca: The Airpower of Anaconda, in: Air Force Magazine, September 2002, p. 60-68, here p. 61.
[808] Hebert, Adam J. / Tirpak, John A.: Battlefield Airmen, in: Air Force Magazine, April 2004, p. 26-32, here p. 29.

demanded intense air support, and might well have had seen higher casualties had the joint air support – from B-52s to F/A-18s to Apaches – not been there when needed."[809]

But critics argued that modern technology did not suffice to locate and see an enemy who was able to conceal himself from the sensors and weapons Airpower needed. Stephen Biddle wrote in late 2002 in a *War College* study:

"In fact, most fire received by U.S. forces in ANACONDA came from initially unseen, unanticipated al Qaeda fighting positions. How could such things happen in an era of persistent reconnaissance drones, airborne radars, satellite surveillance, thermal imaging, and hypersensitive electronic eavesdropping equipment? The answer is that the earth's surface remains an extremely complex environment with an abundance of natural and manmade cover and concealment available for those militaries capable of exploiting it."[810]

In contrast to *Desert Storm*, where the coalition could well see and attack Iraqi forces in the open desert, the Afghani terrain was not that well-suited to the United States' capabilities; especially the ones the Air Force could field. Dr. Mark Clodfelter cautioned similarly that the Taliban did switch their style of warfare and that this style could be problematic:

"For the first four months of the conflict, the Taliban provided the bulk of the forces in Afghanistan and fought a 'conventional' war against Northern Alliance and allied forces. Airpower contributed enormously to wrecking Taliban strength during that span. Since that time, however, the fighting has resembled the guerrilla conflict that plagued Soviet forces for much of their eight-year ordeal. Both Afghanistan's terrain and its climate have proven less than ideal for air operations, although technology has helped to overcome some of those difficulties. Military controls have also affected the air effort in the form of legal re-views of potential targets."[811]

Stephen Biddle argued in a similar fashion: *"The American military is extremely adept at destroying massed, exposed targets in the open, and this is precisely why the Taliban abandoned such postures: they realized they would fare much better if they avoided exposure."*[812] And he pointed as well to a problem which would then arise in Afghanistan as well as in the forthcoming operation in Iraq: *"To invade without sufficient ground forces on*

[809] Grant, The Airpower of Anaconda, p. 68.
[810] Biddle, Afghanistan and the future of warfare, p. 28.
[811] Clodfelter, Mark: Airpower versus Asymmetric Enemies – A Framework for Evaluating Effectiveness, in: Air & Space Power Journal, Fall 2002, p. 37-46, here p. 45.
[812] Biddle, Afghanistan and the future of warfare, p. 52.

the assumption that there will be no fighting to be done would thus be a major gamble."[813] He therewith argued against the Air Force's claim that modern Airpower would make ground forces less necessary. He further warned the defense community from using the Afghan model as a template for Rumsfeld's *Transformation*: *"As a whole, then, we should be wary of claims that Afghanistan represents a revolution in warfare with the potential to motivate sweeping changes in American defense policy and the structure of the American military."*[814] Douglas Porch writes how the speed and ease with which a handful of SOF backed by airpower working together with local warlord allies toppled the Taliban regime in Afghanistan in late 2001 in a matter of weeks nonetheless appeared to confirm all of the RMA assumptions.[815] *Air Force Chief of Staff* General John P. Jumper had already in spring 2001 claimed how the concept favored by Airpower proponents would look like:

> *"Today, we stand on the brink of technological advances that can prompt a new concept of aerospace power employment. Stealth applied to bombers and maneuverable fighters, all-weather precision-guided munitions (PGM), and unmanned aerial vehicles (UAV) will allow us to maneuver over, around, and through – or to stand off outside advanced defensive systems and networks already available to potential adversaries."*[816]

Airpower with its *Stealth* and PGM would therefore form the core of the *New American Way of War*, even if Jumper did not speak that out loudly. Jumper planned the so-called *Global Strike Task Force* (GSTF):

> *"GSTF will rapidly establish air dominance and subsequently guarantee that joint aerospace, land, and sea forces will enjoy freedom from attack and freedom to attack. It will combine stealth and advanced weapons with a horizontally integrated command, control, intelligence, surveillance, and reconnaissance (C2ISR) constellation that provides lethal joint battle-space capability."*[817]

Air superiority could even faster be achieved over Afghanistan, as the Taliban did not possess even the slightest hint of an Air Force. So Peter Grier, a Washington editor for the *Christian Science Monitor* and longtime defense correspondent as well as a regular contributor to Air Force Magazine argued*: "On a larger scale, such integration will result in the Global Strike*

[813] Biddle, Afghanistan and the future of warfare, p. 55.
[814] Ibid. p. 57.
[815] Porch, Counterinsurgency, p. 296.
[816] Jumper, John P.: Global Strike Task Force – A Transforming Concept, Forged by Experience, in: Aerospace Power Journal, Spring 2001, p. 24-33, here p. 25.
[817] Ibid. p. 29.

Task Force, in which horizontally linked ISR will be combined with the ground attack capabilities of the F-22 and the B-2 to provide kick-in-the-door capability."[818] The so-called *"kick-in-the-door capability"*, meaning a forceful intervention or entry against an enemy state, was probably aimed at the Army's idea of projecting forces globally to achieve tactical objectives. At the same time, Grier imagined the Army to field lighter forces thanks to Airpower: *"Modern close air support capability will complement the Army's development of new, lighter forces. It will fit hand in glove with another Air Force goal – the ability to watch an area of interest 24 hours a day, seven days a week, 365 days a year, in all weather, and to identify anything that moves."*[819] And Rebecca Grant supported the claim that Airpower would indeed support the reduction of heavy Army units in favor of lighter ones:

> *"Army commanders will face difficult choices when they deploy lighter, more agile forces. The Army's dependence on CAS in fact may be increasing as future concepts bring about 'distributed forces', with units spread across a large battlespace. Where CAS was once a mission in decline, it may again be a key component of planning for 21st century joint warfare."*[820]

Grier and grant both argued therefore on the *Transformation* line where lighter systems should replace *legacy*, heavy systems. CAS would also be one of Airpowers main missions in the upcoming *Operation Iraqi Freedom*.

Operation Iraqi Freedom

The aforementioned *Shock and Awe* concept was modified, and became known as the *Rumsfeld doctrine*: *"It was based on speed, maneuver, shock effect, extensive covert preparation of the battlefield, precision strikes at strategically significant targets, and information dominance"* as Lewis describes. The doctrine was based on the premise that the United States was fighting a state, not a nation, and that it was possible to maintain the separation between the people and the government.[821] Rumsfeld did in 2003 only want to use minimal ground forces. Lewis describes how Rumsfeld believed that a new approach to how the United States went to war was necessary. He seemingly believed that new doctrine, new technologies, and the RMA had dramatically changed the conduct of war. Rumsfeld, so Lewis, believed that the Army was *"a dinosaur, unwilling to change, and incapable of looking*

[818] Grier, Peter: The Strength of the Force, in: Air Force Magazine, April 2002, p. 22-28, here p. 26.
[819] Ibid. p. 25.
[820] Grant, Rebecca: The Clash About CAS, in: Air Force Magazine, January 2003, p. 54-59, here p. 55.
[821] Lewis, The American Culture of War, p. 433.

beyond its traditional ways of doing things." But somehow Rumsfeld was planning to fight the wrong war.[822] The core of the *Rumsfeld doctrine* were high-technology combat systems heavily reliant on Airpower, with nimble, light ground forces that would have both a smaller supply chain and fewer soldiers exposed to danger.[823] But the forces at disposal in 2003 were still *conventional*, or *legacy* (in the words of the *Transformation* experts) units such as the *3rd Infantry Division*. David Fitzgerald comments: *"The hard lessons on the limitations of technology, seen so clearly in Vietnam, seemingly remained unlearned."*[824] While technology had always played a large part on the Army's *Way of War*, especially since *AirLand Battle*, what Rumsfeld was proposing to do now was to make intervention possible again in the age of the Vietnam syndrome; fast, *decisive*, with minimal casualties and quick conflict termination.[825] Therefore, the biggest part of the *"shock"* would be delivered by Airpower, as described already by Ullman and Wade in their 1996 concept paper:

> *"Air power can punish, simultaneously destroy center-of-gravity targets, and so demoralize the opposing forces that land campaign objectives can be achieved with smaller forces. In some cases, the Shock and Awe achieved by the air campaign may result in an early cessation of conflict before the land campaign is necessary. This is more likely against a modernized, developed state than an underdeveloped government."*[826]

While Ullman and Wade very much used the *center of gravity* language, the last part of the above statement seems to be the most interesting: the concept presented would be much more useful against a modern state than against an *"underdeveloped government"*. And indeed the United States Armed Forces beat the *regular* Iraqi units in a matter of weeks; the problems would arise later. Airpower proponents celebrated this early success in their publications, here John A. Tirpak in *Air Force Magazine*: *"With an emphasis on speed, flexibility, rapid maneuver of ground forces, surgical strikes, and information operations, Operation Iraqi Freedom was in many ways a demonstration of the 'transformational' concepts and technologies championed by the Pentagon leadership."*[827] Tirpak saw EBO vindicated as well: *"Gulf War II had all the hallmarks of an 'effects-based operation' – speed, precision, and effectiveness enhanced by use of minimum force but backed by the willingness*

[822] Lewis, The American Culture of War, p. 436.
[823] Fitzgerald, Learning to forget, p. 116.
[824] Ibid. p. 113.
[825] Ibid. p. 122.
[826] Ullman / Wade, Shock And Awe, p. 108.
[827] Tirpak, John A.: Desert Triumph, in: Air Force Magazine, May 2003, p. 10-15, here p. 10.

to employ massive force where warranted to mold the enemy's perception."[828] And Rebecca Grant saw even a new level of Airpower *"precision"*: *"As foreshadowed in Operation Allied Force and in Enduring Freedom, coalition airpower attained a new level of precision and persistence."*[829] But not only *"precision"* and EBO were seen as vindicated, Deptula's *parallel strategic attacks* as well:

> *"Strategic forces did not mount a parallel attack in isolation. Rather, strategic airpower bent and flexed to fit an array of campaign objectives, ranging from suppressing enemy communications to pursuing time critical targets. Strategic airpower could operate anywhere, anytime, and commanders varied the phasing of strategic attacks with other jobs of the air and land campaign."*[830]

"Speed" was now mostly associated with Airpower and being advanced as an inherent capability that *Transformation* brought. While *"speed"* had been attributed to the Warsaw Pact's forces in *AirLand Battle*, now it was one of the hallmarks of the United States Armed Forces' capabilities. Robert S. Dudney, Editor in Chief *Air Force Magazine*, saw Airpower as well in a pole-position to dominate warfare to come, thanks to the technology available now:

> *"Careful targeting and precision munitions lessened the danger to noncombatants, producing fewer civilian casualties. Today, EBO is largely an airpower domain. A fundamental difference between Gulf War I and Gulf War II was use of information to dramatically compress the time required for an attack. The infrastructure that made the difference mobile intelligence-surveillance-reconnaissance systems, powerful and reliable voice and data communications – was provided by air and space forces."*[831]

Information was the *decisive* element to wage war, and Air (and Space) Forces would provide it. Still *Desert Storm* was used hereby as some kind of important starting point, surpassed now by the continuing development of technology. The concept *Shock and Awe* was certainly praised as well: *"The 3rd Infantry's audacious entry into Baghdad provided a healthy dose of shock and awe."*[832] The dash through Southern Iraq which to United States' ground forces had mounted in March and April 2003 was as well associated with the term

[828] Tirpak, Desert Triumph, p. 10.
[829] Grant, Rebecca: Hand in Glove, in: Air Force Magazine, July 2003, p. 30-35, here p. 35.
[830] Grant, Rebecca: The Redefinition of Strategic Airpower, in: Air Force Magazine, October 2003, p. 32-38, here p. 36.
[831] Dudney, Robert S.: Framework for Victory, in: Air Force Magazine, September 2003, p. 4.
[832] Grant, Hand in Glove, p. 34.

"speed", as the *3rd Infantry Division* and its Marine counterparts did indeed reach Baghdad rather fast. And Robert S. Dudney commented *Shock and Awe* similarly: *"As applied to strategic airpower, the shock-and-awe concept also retained the core DNA of strategic campaigns: the notion of independent effects so powerful they would put all other aspects of air warfare and joint operations in the shade."*[833] But in hindsight, Saddam Hussein's regime did not falter because of *Shock and Awe* attacks delivered by Airpower. In fact, he never surrendered. The regime fell only when tanks and soldiers physically occupied the capital.[834] One has to note also how the discussion observed did mostly not really analyze the enemy. It seems rather that the enemy was blanked out. At the same time, even traditional Airpower commentators such as John T. Correll were critical towards the accomplishments: *"What the fires and explosions seen on the skyline did not show was the extraordinary precision of the strikes and the care taken to avoid hitting the civilian population. The effect on military and government targets was ruinous. However, it was not what the public expected, having been spun up by hundreds of stories about Shock and Awe. Saddam Hussein's regime did not fall overnight."*[835] Frederick Kagan as well relativizes the initial success and argues that the Iraqi armed forces were only a third as powerful as they were in 1991, and Iraq was geographically and politically isolated.[836] Lewis even writes how the Iraqi military was that weak, just about any plan to beat it would have succeeded in driving Saddam from power.[837] Airpower, which constituted the biggest part of *Shock and Awe* campaign, did not produce the immediate collapse many analysts and Airpower proponents expected and demanded by their own doctrine. While the air attacks produced partial *paralysis* of the *"brain"*, the limbs, the Iraqi ground combat forces, were still active; and that in turn, made the ground war still necessary. While the vast majority of Iraqi forces decided not to fight, it must be remembered that Iraq was not a unified, cohesive nation, especially after a decade and more of sanctions. Lewis argues that it was only a state with deep fractures that precluded that the Iraqi people fought cohesively against the United States' forces and its allies.[838] The *Rumsfeld doctrine* would not have worked against a unified nation-state fighting as a

[833] Grant, The Redefinition of Strategic Airpower, in p. 35.
[834] Kagan, Finding the Target, p. 344f.
[835] Correll, John T.: What Happened to Shock and Awe?, in: Air Force Magazine, November 2003, p. 52-57, here p. 55.
[836] Kagan, Finding the Target, p. 346.
[837] Lewis, The American Culture of War, p. 428.
[838] Ibid. p. 442.

whole.[839] But Airpower advocates nonetheless saw the initial success primarily attributed to Airpower and argued, once again, how ground forces had not been really necessary:

> *"The war has unexpectedly renewed the debate about the future of heavy ground forces. Gulf War II's ground force was only half the size of that deployed in the 1991 war, even though the 2003 war aims were more ambitious. […] However, the swift victory of the smaller ground force put such critics in an awkward spot, facing the question of whether modern airpower means commanders need fewer heavy ground forces to attain victory."*[840]

Kretchik describes how the OIF planners tried to design operations to prevent extensive damage, for the mission aimed to liberate the populace and not conquer it. Thus, planning focused on how to disrupt but not destroy the country through *systems-based* planning. Planners viewed Saddam's power as emanating from his ability to control Baghdad through economics, human factors, political mechanisms, infrastructure, internal security and intelligence organizations, and the military. Therefore, the intent was to attack real and symbolic urban control mechanisms with *Shock and Awe* and bring about submission without extensive house-to-house fighting.[841] But the planners had neglected the aftermath and the ensuing ramifications the collapse of the regime would have not only on Baghdad but on the whole country. Serena describes how RDO offered neither a response nor a solution to stability operations. In the eyes of the planners, stability was to naturally and somewhat seamlessly follow the cessation of hostilities, and as such was not part of the discourse on warfare at all.[842] Anthony H. Cordesman from the Center for Strategic and International Studies warned in a July 2003 paper: *"It is one of the iron laws of military history that armies are far better equipped to win the war than to win the peace, and that strategic objectives in warfighting are far easier to achieve than the grand strategic objectives necessary to shape the peace that has lasting value."*[843] And Cordesman would as well include Serena's argument that the United States had counted on a smooth transition to post-combat operations: *"Conflict termination has generally been treated as a secondary priority, and the end of war has often been assumed to lead to a smooth transition to peace*

[839] Lewis, The American Culture of War, p. 453.
[840] Dudney, Robert S.: The US Air Force at War, in: Air Force Magazine, May 2003, p. 2.
[841] Kretchik, U.S. Army Doctrine, p. 259f.
[842] Serena, A Revolution in Military Adaptation, p. 46.
[843] Cordesman, Anthony H.: Iraq and Conflict Termination: The Road to Guerrilla War? Center for Strategic and International Studies, Washington, DC, Revised July 28, 2003, p. 7.

or been dealt with in terms of vague plans and ideological hopes. The United States and its allies are now paying for this failure to look beyond immediate victory on the battlefield."[844] Fitzgerald argues similarly that a doctrine that emphasizes *paralyzing* an entire *system* through psychological *"shock"* would almost certainly cause not just *paralysis* but the collapse of the very *system* war planners assumed would remain in place.[845] Correctly, Lieutenant General Frederic J. Brown, a retired Army officer, in late 2003 warned: *"We cannot yet predict the outcome of the regime change in Iraq, but near-term omens are not favorable."*[846] And when the security situation in Iraq was deteriorating more and more, John D. Nelson wrote in an *Army War College* study in 2004:

> *"The 'New American Way of War' cannot deliver on the promise of reduced ground forces that the authors of the 2001 Quadrennial Defense Review hoped for. In the drive to swiftly defeat the efforts of an adversary and return conditions to status quo ante bellum American forces will require more ground forces to secure the peace than to complete decisive combat operations. Indeed, to conduct a [win?] decisive campaign in a major combat operation the United States will require more ground forces to remove a regime."*[847]

Lewis calls it an irony that the *high-tech* war, which was supposed to be won by Airpower, evolved into a primitive ground war where foot soldiers had to physically close with the enemy, kill them, and then learn to work with the local population.[848] And therefore the biggest strategic planning failure of the United States government was not having in place a significant plan to win the peace.[849] Max Boot argued consecutively, that Airpower, no matter how awesome, simply is not able to police newly liberated countries or build democratic governments.[850] While Airpower's proponents had never argued accordingly, they had as well not thought as far in their theoretical discussions, and neither had the *Transformation* and RDO enthusiasts.

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[844] Cordesman, Iraq and Conflict Termination, 2003, p. 23.
[845] Fitzgerald, Learning to forget, p. 131.
[846] Brown, Frederic J.: America's Army – Expeditionary and Enduring – Foreign and Domestic, in: Military Review, November-December 2003, p. 69-77, here p. 72.
[847] Nelson, John D.: Swiftly defeat the efforts: Then what? The „New American Way of War" and transitioning decisive combat to Post Conflict Stabilization, USAWC Strategy Research Project, United States Army War College, Carlisle, PA, 2004, p. 13.
[848] Lewis, The American Culture of War, p. 493.
[849] Ibid. p. 438.
[850] Boot, Max: The New American Way of War, in: Foreign Affairs, Volume 82 No.4, July/August 2003, p. 41-58, here p. 56.

A future ground force to fight a present enemy?

Even before the situation in Iraq got problematic, the future role and shape of ground forces was discussed in different publications. William R. Hawkins had shortly before the war in Iraq written in *Parameters*: *"The Army must be able to field a balance of units effective in operations from the heavy to the light ends of the conflict spectrum. Some lighter-equipped units are needed for certain missions and as a rapid reaction/deterrent/vanguard force. At the same time, larger, heavier-equipped units also must be retained and be capable of timely deployment."*[851] Hawkins did therefore argue more against an only *Transformation* e.g. *Objective Force*. After the initial success of the more or less *legacy* units on the road towards Baghdad, Peter A. Wilson, Lieutenant Colonel John Gordon IV, and Colonel David E. Johnson, all of them employed by RAND, wrote: *"Nevertheless, one potentially important lesson learned from Operation Iraqi Freedom is that existing US military forces are more than adequate for major combat operations in a non-nuclear environment against forces with second-tier technology and questionable quality."*[852] And the three authors argued further: *"Operation Iraqi Freedom has illuminated the usefulness of heavy armor coupled with mechanized or motorized, but dismountable, infantry in suburban and urban terrain."*[853] The authors even questioned the necessity of the FCS or *Objective Force* altogether: *"If the past decade is any guide, the US Army will spend most of its time in the next decade or more on stability operations. This calls into question the need for the expensive and very high-tech FCS combat vehicles for all maneuver brigades."*[854] The urban terrain and the attacks by *irregular* units made armor necessary more than ever, but rather more as a measure of protection than a *decisive* element. Lieutenant General Brown stated as well: *"The Abrams-Bradley pair clearly is world class – militarily and psychologically dominant. Would a lighter Objective Force, FCS-equipped, be as dominant and survivable?"*[855] General Brown therefore saw the *legacy* systems, the *M1 Abrams* and *M2 Bradley* being part of the *Big Five* from the 1980s, to be even more *psychologically effective*. Their often criticized heavy armor and sheer size made them more impressive and nearly invulnerable against an opponent who relied mostly

[851] Hawkins, William R.: What Not to Learn from Afghanistan, in: Parameters, Summer 2002, p. 24-32, here p. 32

[852] Gordon IV, John / Johnson, David / E. Wilson, Peter A.: An Alternative Future Force: Building a Better Army, in: Parameters, Winter 2003-04, p. 19-39, here p. 26.

[853] Gordon / Johnson / Wilson, Building a Better Army, p. 26.

[854] Gordon IV, John / Johnson, David / E. Wilson, Peter A.: An Alternative Future Force: Building a Better Army, in: Parameters, Winter 2003-04, P. 19-39, here P. 28.

[855] Brown, America's Army, p. 74.

on small arms. Only a handful of *M1 Abrams* were hit or even destroyed during the initial combat phase of OIF.[856] Nonetheless, Army planners saw their doctrine fit to the new realities in Iraq and Afghanistan as well. Colonel Clinton J. Ancker III, the Director, CADD at the CAC, and Colonel Michael D. Burke, a Military Analyst, wrote in summer 2003:

> *"Thus far, we believe, the [Field] manual [3-0, 2001] has successfully anticipated the environment and types of operations occurring in Afghanistan and elsewhere. Where the next operations manual might need emphasis lies in the presentation and understanding of second- and third-order effects associated with asymmetric land operations, and that should be predicated on a thorough review of military theory."*[857]

"Asymmetry" was still, and would be for a certain period of time, a major part in the discourse on warfare. Major Robert M. Cassidy, a member of the United States Army, Europe, Commanding General's Initiatives Group, wrote: *"Asymmetric conflict will therefore be the norm, not the exception. The asymmetric nature of the war in Afghanistan underscores the salience of asymmetric conflicts."*[858] What the United States Armed Forces encountered in Iraq was a blurring of civilians and combatants. Chester W. Richards incorporated this idea into the so-called *fourth generation warfare*: *"In true 4GW, distinctions between civilians and combatants blur, so an enemy might seek to counter an F-22 by poisoning the squadron's mess hall, blowing up its barracks (as in Beirut), or even attacking schools and PXs back at the base."*[859] And William S. Lind, director of the *Center for Cultural Conservatism of the Free Congress Foundation*, argued further that *"In Fourth Generation war, the state loses its monopoly on war. All over the world, state militaries find themselves fighting nonstate opponents such as al-Qaeda, Hamas, Hezbollah, and the Revolutionary Armed Forces of Colombia. Almost everywhere, the state is losing."*[860] Lind criticized that the current *Transformation* did not really appreciate this kind of threat or enemy*: "If you read the current Transformation Planning Guidance put out by DOD, you will find nothing on Fourth Generation war, indeed nothing that relates at all to either of the two*

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[856] One *Abrams* for example was hit into its engine compartment during the initial Thunder Run into Baghdad in early April 2003, cf. Zucchino, David: Thunder Run – Three Days in the Battle for Baghdad, London, 2004, p. 20.
[857] Ancker III, Clinton J. / Burke, Michael D.: Doctrine for Asymmetric Warfare, in: Military Review, July-August 2003, p. 18-25, here p. 24.
[858] Cassidy, Robert M.: Renaissance of the Attack Helicopter in the Close Fight, in: Military Review, July-August 2003, p. 38-45, here p. 40.
[859] Richards, Chester W.: A Swift, Elusive Sword – what if Sun Tzu and John Boyd did a National Defense Review?, Prepared for the Center for Defense Information, Washington, D.C., February 2003, p. 27.
[860] Lind, William S.: Understanding Fourth Generation War, in: Military Review, September-October 2004, p. 12-16, here p. 13.

wars we are now fighting; it is oriented toward fighting state armed forces that fight us symmetrically."[861] But in the end, all buzzwords like 4GW or *"asymmetry"* did not describe something astonishingly new. Colin S. Gray argues even that 4GW is a rediscovery of the obvious and the familiar.[862] Contrary to the descriptions in concepts such as *Shock and Awe* or EBO, the enemy surely had a vote in how conflicts and battles worked out. Colonel H.R. McMaster criticized these concepts in 2003: *"The enemy is generally absent from these descriptions of future war. When the enemy does appear, he is quickly overwhelmed by American strength and the interaction between forces is limited to the application of U.S. military power followed closely by enemy capitulation."*[863] This indeed resembles the jominian thinking which at foremost the United States Army scholars live.[864] And Major Timothy M. Karcher, a student at the Army School of *Advanced Military Studies*, argued against EBO thinking: *"A superficial understanding of the enemy's culture will not determine accurately his likely courses of action or how he might react to one's own actions."*[865] Similarly, Timothy R. Reese wrote in *Military Review*:

> *"The enemy is not a lifeless mass of fixed buildings, information systems, or weapons platforms. Enemies do not surrender their strategic goals using a simple cost-benefit calculation. Mere destruction of the enemy's means of war is not the true aim of war. Victory is achieved when the enemy's will to resist is broken, and he is compelled to act according to his adversary's will. Like water, the will to resist finds a path that allows it to continue, and wars fought primarily with precision firepower tend to leave paths open after strikes cease."*[866]

The enemy's *"will"* could not simply be broken through *"firepower"*. Here clausewitzian and jominian thinking do rather explicitly contrast: Jomini's much more simple idea of winning battles by putting overwhelming force at the *decisive point* stands against Clauswitz' war of

[861] Lind, Understanding Fourth Generation War, p. 15.
[862] Gray, Colin S. Another bloody century: future warfare, London, 2006, p. 142.
[863] McMaster, H.R.: Crack in the foundation: Defense Transformation and the Underlying Assumption of Dominant Knowledge in Future War, Student Issue Paper, Volume S03-03, Center for Strategic Leadership, the United States Army War College, November 2003, p. 37.
[864] Swiss Napoleonic art of war writer Antoine-Henri Jomini's ideas were as early as during the Civil War taught at the United States Army Military Academy at Westpoint, cf. Whiteclay Chambers, John: The Oxford Companion to American Military History, Oxford, 1999, p.720.
[865] Karcher, Timothy M.: The Victory Disease, in: Military Review, July-August 2003, p. 9-17, here p. 12.
[866] Reese, Timothy R.: Precision Firepower: SMART BOMBS, DUMB STRATEGY, in: Military Review, July-August 2003, p. 46-53, here p. 53.

the *"wills"*. Major David W. Pendall, a *Strategic Planner* with the *National Security Agency*, argued similarly:

> *"We should not rely on future adversaries to make the mistake of massing organized conventional-like forces and attempting to fight from fixed positions or from a definable, targetable geographic base of operations. More likely, future adversaries will strive for global dispersion, operate from networked structures, and avoid decisive engagements with conventional forces on land, sea, or air."*[867]

Not only dispersion, but as well the usage of the environment in Iraq helped the enemy to fight a protracted war. Major Richard K. Sele, a *civil affairs officer* with the *351st Civil Affairs Command*, saw the urban environment as an advantage for the enemy: *"Future conflicts will likely be in urban environments, which reduce some of the U.S. military's tactical advantage."*[868] Apart from Sele, Major General Robert H. Scales, Jr., retired, Army General and an independent consultant for defense matters, wrote similarly in *Military Review*: *"The enemy's plan is simple and effective: lure American forces into terrain where Information-Age knowledge, speed, and precision give way to the more traditional warfighting advantages of mass, will, patience, and the willingness to die."*[869] While the Afghan terrain had been different than the *Desert Storm* terrain, now the fighting took again place in Iraq, not in the desert but in the cities. Following the *New American Way of War* and its emphasis on technological solutions, theorists and industry officials would certainly argue that with modern unmanned systems or the ability to see through walls, even the enemy in an urban terrain could be located and *precisely* destroyed. But Antulio Echevarria II nonetheless wrote in a 2004 *War College* study:

> *"The new American way of war – which in practice amounted to small, mobile attack forces augmented by special operations forces and liberal, if precise, doses of air power – seemed, at least to those who wished to think so, to offer the possibility of winning the war quickly and relatively inexpensively. However, while this emerging way of war looked to employ new concepts, such as shock and awe and effects-based operations, designed to win battles quickly, it had no new concept for accomplishing the time-*

[867] Pendall, David W.: Effects-Based Operations and the Exercise of National Power, in: Military Review, January-February 2004, p. 20-31, here p. 21.
[868] Sele, Richard K.: Engaging Civil Centers of Gravity and Vulnerabilities, in: Military Review, September-October 2004, p. 32-37, here p. 34.
[869] Scales, Robert H.: Urban Warfare: A Soldier's View, in: Military Review, January-February 2005, p. 9-18, here p. 9.

intensive and labor-intensive tasks of regime change more quickly and with less labor."[870]

Indeed, *"small, mobile attack forces augmented by special operations forces and air power"* had been successful in routing the conventional parts of the Iraqi Armed Forces. But, they were not prepared to fight an enemy hiding in suburbs and avoiding heavy clashes.

Technology and the New American Way of War

In general, the technologically-driven *New American Way of War* was discussed in a broad manner. Colonel Kip P. Nygren, Professor and *Head of the Department of Civil & Mechanical Engineering* at the *United States Military Academy*, cautioned in 2002: *"Unfortunately, technology is always a double-edged sword. As it becomes more capable of providing positive benefits for society, technology also acquires more potential for injury and destruction."*[871] But the thinking, that the United States must have the technological edge was widespread nonetheless. Colonel Kurt Dittmer, *Chief of Combat Forces Capability Requirements*, Headquarters USAF, argued in summer 2003: *"If the United States does not continue to retain the technological lead and field new capabilities, at some point in time, we may see adversaries who determine that they can challenge us in a conventional war and will make engagement decisions based on that assessment."*[872] Similar arguments could be heard and read in the late 1970s or early 1980s. Many participants in the discourse on technology throughout the analyzed period argue for the necessity of the United States' technological advantage and its maintenance. Lieutenant Colonel Timothy R. Reese, U Director, *Cavalry and Armor Proponency Office*, United States Army Armor Center, even cautioned that enemies would gain similar capabilities: *"The United States does not enjoy a permanent monopoly on the technology of precision firepower."*[873] One of the mainstays of the United States' technological edge, and especially of the Airpower concepts, was *"precision firepower"*. But Reese criticized: *"An enemy's ability to wait out, counter, or evade the effects of precision firepower neatly exposes the theory's shortcomings."*[874] Finally Reese concluded

[870] Echevarria II, Antulio J.: Toward an American way of war, Strategic Studies Institute, United States Army War College, Carlisle, PA, March 2004, p. 14f.
[871] Nygren, Kip P.: Emerging Technologies and Exponential Change: Implications for Army Transformation, in: Parameters, Summer 2002, p. 86-99, here p. 89.
[872] Dittmer, Kurt: Transformation from the War Fighter's Perspective, in: Air & Space Power Journal, Summer 2003, p. 31-34, here p. 32.
[873] Reese, Precision Firepower, p. 48.
[874] Ibid. p. 49.

that *"Current experience in Afghanistan suggests that the effects of precision firepower are limited even against a primitive foe."*[875] For sure a tanker would rather not laud Airpower too much, but still Reese himself used the terms associated with the technology and EBO language (*"effects"*). Airpower proponents on the other side were determined that the Air Force was at the edge of technological advance. Major General David A. Deptula, Colonel Gary L. Crowder, and Maj George L. Stamper Jr. argued in favor of the RMA: *"Over the past decade, the Air Force has experienced nothing short of a revolution in military affairs in its capabilities to conduct counterland operations."*[876] And James G. Roche, Secretary of the Air Force wrote in the *Air Force Magazine*: *"Technology is creating dynamic asymmetric advances in information systems, communications, and weapon systems, enabling us to identify targets, employ forces, and deliver more precise effects faster than ever before."*[877] Roche not only used EBO speech (*"precision"*, *"effects"*), he as well brought the *"asymmetry"* into play, as an advantage of the United States again. And General Deptula and his co-authors argued further, that Airpower could now on its own destroy an enemy ground force*: "The Air Force has developed the capability to directly engage and render ineffective an adversary's land forces – a capability that should be codified in doctrine."*[878] Not only here did authors argue with the *"effectiveness"*, Colonel Anthony C. Cain, editor of the *Air & Space Power Journal*, did not even foresee the ensuing problems with stability in Iraq:

> *"Air and space power will ensure that the stunning effectiveness that characterizes combat operations will carry over into war-winning, post-hostilities operations. The humanitarian crisis that many analysts expected has not occurred, largely because the precision-strike capability inherent in air and space power has limited the destruction that normally accompanies large-scale combat operations."*[879]

Not only did Airpower, in the eyes of its proponents, limit damage, but *"precision"* was inherent in Airpower. But others criticized that EBO proponents thought they knew everything about their enemies. The aforementioned Timothy R. Reese saw them rather falsely assuming that they could determine an enemy's most valued assets:

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[875] Reese, Precision Firepower, p. 48.
[876] Crowder, Gary L. / Deptula, David A. / Stamper Jr., George L.: Direct Attack – Enhancing Counterland Doctrine and Joint Air-Ground Operations, in: Air & Space Power Journal Winter 2003, p. 5-12, here p. 8.
[877] Roche, James G.: Revolution by Adaptation, in: Air Force Magazine, February 2004, p. 62-63, here p. 63.
[878] Crowder / Deptula / Stamper, Direct Attack, p. 12.
[879] Cain, Anthony C.: The Transformation of Air and Space Power in Operation Iraqi Freedom, in: Air & Space Power Journal, Summer 2003, p. 6-7, here p. 7.

> *"Precision firepower also assumes a number of things are knowable about the enemy when often they are not. EBO advocates offer policymakers a menu of desired effects to impose on an enemy. EBO advocates incorrectly assume the United States can accurately determine what assets an enemy values most and attack them. In this sense, precision firepower is a tool for believers in gradualism, escalation, and punishment game theory."*[880]

Reese accused Airpower advocates to incorrectly believe in the possibility to escalate and de-escalate a conflict by applying *"firepower"* to punish and therefore coerce an enemy. And Reese described how Airpower proponents still mostly regarded conflicts as being *conventionally* fought and how they did leave terrorist groups or *irregulars* aside. That would only change in the discussions on COIN covered by the next chapter. But Lieutenant Colonel J. P. Hunerwadel, a retired Air Force officer, cautioned in early 2006: *"Military operations today, however – even relatively small ones – can become too complex to rely upon genius for considering factors outside the traditional military understanding of cause and effect that may prove crucial for achieving objectives."*[881] Gray sees therefore EBO as an oversold rediscovery of what military forces have always been about in action. For sure, all applications of military power are intended to achieve particular *"effects",* and therefore the fact that new technology permits forces to be more *precise* in their behavior is simply an improvement upon what they have always striven to achieve. Gray concludes that EBO *"is essentially void of meaning"*[882], putting it straight.

Some authors then as well criticized the Airpower idea and argued that adversaries would not just let themselves be hit by the United States Air Force: *"Instead, our competitors pursue strategies designed to negate the over-whelming technological and organizational competency that US air and space power represents."*[883] Brian C. Dickerson wrote in an *Army War College* study: *"America's adversaries will modify their strategies and operational and tactical capabilities in an attempt to reduce U.S. technological advantages. Other state and non-state actors will challenge current U.S. military dominance in variety of innovative and asymmetric ways. They will not remain static in the face of American capabilities. They will*

[880] Reese, Precision Firepower, p. 48.
[881] Hunerwadel, J. P.: The Effects-Based Approach to Operations – Questions and Answers, in: Air & Space Power Journal, Spring 2006, p. 53-62, here p. 54.
[882] Gray, Another bloody century, p. 143.
[883] Cain, Anthony C.: Air and Space Power – Asymmetric Advantage for the United States, in: Air & Space Power Journal, Spring 2003, p. 18-19, here p. 19.

adapt."[884] And not only would enemies adapt, they would as well not let the United States win in a first and only *decisive* battle. Antulio Echevarria II warned accordingly:

> *"Much like its predecessor, the current American way of war focuses principally on defeating the enemy in battle. Its underlying concepts – a polyglot of information-centric theories such as network-centric warfare, rapid decisive operations, and shock and awe – center on 'taking down' an opponent quickly, rather than finding ways to apply military force in the pursuit of broader political aims. Moreover, the characteristics of the U.S. style of Warfare – speed, jointness, knowledge, and precision – are better suited for strike operations than for translating such operations into strategic successes."*[885]

Echevarria therefore criticized the *New American Way of* War in its essence, disputing the possibility that an *Iraqi Freedom*-style intervention could be put to good use for a strategic end state. Boot already earlier rightly described how this *Way of War* was not suited for the long run: *"Spurred by dramatic advances in information technology, the U.S. military has adopted a new style of warfare that eschews the bloody slogging matches of old. It seeks a quick victory with minimal casualties on both sides. Its hallmarks are speed, maneuver, flexibility, and surprise."*[886] At the same time, the hallmarks mentioned did not really mean anything new at all: *"Speed"*, *"maneuver"*, and even flexibility had been touted as early as in *AirLand Battle*. But at least since the 1980s, if not earlier, the application of technology seemed to be the best way to defeat any enemy. But Steven Metz, Director of Research and Chairman of the Regional Strategy and Planning Department, *Strategic Studies Institute* (SSI) together with Raymond A. Millen, *Director of European Security Studies* at the SSI, saw Airpower and technology as ill-fitted for the conflict which arose in Iraq:

> *"If the United States reaches a point where all that it can undertake are rapid decisive operations relying heavily on standoff strikes, it will be like a 16th century armored knight or mid-20th century battleship – extremely adept at a type of combat that has declining strategic relevance. Winning 21st century armed conflicts will require more than servicing targets. American military strategy should thus seek rapid decisive operations*

[884] Dickerson, Brian D.: Adaptability – A New Principle of War, USAWC Strategy Research Project, U.S. Army War College, Carlisle, PA, 2003, p. 12.
[885] Echevarria, Toward an American way of war, p. 16.
[886] Boot, Max: The New American Way of War, in: Foreign Affairs, Volume 82 No.4, July/August 2003, p. 41-58, here p. 42.

but also retain the ability to prevail in protracted, complex, ambiguous, and asymmetric warfare. To do this requires the versatility of landpower."[887]

This statement is interesting in two ways. First, the *"armored knight"* would certainly be exactly the description that Rumsfeld and the *Transformation* proponents themselves would use to describe the *legacy* force – not the *Objective Force*. But Metz and Millen used it to describe the type of force Rumsfeld wanted to have. Landpower or large masses of ground forces was the type of warfare the *Rumsfeld doctrine* did not want to put to use in Iraq. Then, second, the authors use *"asymmetry"* to describe again the *other* type of war that the Army did never really appreciate. But the *legacy* force, itself doctrinally unsuited to the war in Iraq that would follow the ground offensive, defeated the *regular* Iraqi Army with ease. Kagan even argues that the United States Armed Forces did not destroy Saddam's regime in three weeks because of modern technology such as NCW, but instead because of the excellence in people and technology developed over the preceding two decades since *AirLand Battle*.[888] Heavy weapons such as the *M1 Abrams* tank were indeed much more suited to the warfare in Iraq than FCS, Kagan writes: *"Armor protection is essential for maneuver in the open, for urban warfare, and for counterinsurgency, and this unsung capability, created in the 1970s for a very different sort of war, was one of the most important factors that led to U.S. military success in Iraq at such speed and such low cost."*[889] Kagan further criticizes NCW for treating war as a targeting drill. In his eyes, NCW focuses entirely on the use of the military to destroy things and kill people, and thereby misses the point of war entirely.[890] And Gray further argues how competent *irregular* enemies would be reluctant to present themselves as lucrative targets only set to be pulverized from the air.[891]

There were however, some voices arguing in favor of a less technologically driven approach to the *Transformation*. Dr. Jack D. Kem, a retired Army Colonel favored a more comprehensive view: *"We must keep our transformation efforts intellectually honest, taking a holistic, coherent view of transformation and looking beyond a gadget-oriented approach to change."*[892] It is not surprising, that most of the more critical voices came from the Army

[887] Metz, Steven / Millen, Raymond A.: Future War/Future Battlespace: The strategic role of American Landpower, Strategic Studies Institute, United States Army War College, Carlisle, PA, 2003, p. 21.
[888] Kagan, Finding the Target, p. 354.
[889] Ibid. p. 353.
[890] Kagan, Finding the Target, p. 358.
[891] Gray, Another bloody century, p. 111.
[892] Kem, Jack D.: Military Transformation – Ends, Ways, and Means, in: Air & Space Power Journal, Fall 2006, p. 85-93, here p. 92.

or Marine Corps. The Navy and the Air Force especially seem to inhabit military environments literally dominated by technology whereas the Marine Corps and the Army inhabit a type of environment that is far more complex and human.[893]

Lewis argues that the Bush Administration, like the Johnson Administration in Vietnam, had placed too much faith in military solutions based on advanced technologies. By doing so, it misread the situation in Iraq.[894] Not only in Iraq but in Afghanistan as well victory was declared prematurely. The United States would, almost a decade and the commitment of hundreds of thousands of soldiers and marines later, still be engaged in combat operations in both countries.[895] Both *conventional* campaigns in Afghanistan and Iraq could be considered a vindication of RMA-type concepts in that quality defeated quantity (or: only inferiority) with remarkable *"speed"*. But thereafter the United States Armed Forces were stuck in dealing with resourceful and determined *irregular* opponents, as Lawrence Freedman writes.[896] Kagan even argues that had the United States simply developed and executed a plan as it normally would have to attack and defeat Saddam's *regular* Army, there would have been enough troops on the ground to respond rapidly to a deteriorating situation, even if the pre-war planning had proved to be inadequate.[897] But destroying the Iraqi military's ability to continue to fight was never the major problem facing the United States Armed Forces in 2003.[898] And the determination to use *Shock and Awe* contributed to these problems as that cocnept pays no heed to the post-war situation in-country at all. *Shock and Awe* share with NCW and the EBO the flawed idea that destroying enough things of value will be sufficient to force any enemy to stop fighting. *"The enemy may or may not stop fighting, but the destruction of things of value may well complicate the development of an acceptable post-war environment badly."*[899] While not fully implemented as neither FCS was available nor the whole force was really linked together, the RMA proved *ineffective* in achieving political objectives (stability) in Iraq and Afghanistan. And again Landpower as well as Airpower was needed to achieve the goals set, as will be shown in the next chapter.[900] But

[893] Gray, Another bloody century, p. 119.
[894] Lewis, The American Culture of War, p. 422.
[895] Ibid. p. 407.
[896] Freedman, Lawrence: The Counterrevolution in Strategic Affairs, in: Kennedy, David M. (ed.): The modern American military, Oxford, 2013, p. 13-39, here p. 22.
[897] Kagan, Finding the Target, p. 327.
[898] Ibid. p. 330.
[899] Kagan, Finding the Target, p. p. 344.
[900] Lewis, The American Culture of War, p. 368.

the Airpower discourse still flew high in the first few years of the 21st century. While *"speed"* was now not only connoted with Airpower but Landpower as well, still initially most of the military and therefore, tactical, successes where attributed to Airpower.

3.2 *Counterinsurgency*, the *Field Manual* 3-24 and the future of war

As the situation in Iraq deteriorated rapidly during 2004, critical voices gained ground in the publications. Obviously, pre-war planning had neglected to plan accurately for the *stabilization* after the *high-intensity* combat phase. At the same time, the orientation of especially Army *Transformation* was intensively discussed. This chapter will show how the discourse on warfare did take a turn away from the networked, *High-Intensity Conflict* imagined in the 1990s towards a *Low-Intensity* kind of conflict, facing the realities in Iraq (and less so in Afghanistan). The acronym COIN, standing for *Counterinsurgency* warfare, did get more attention as General David L. Petraeus and a team of authors then in 2006 released the FM *3-24 Counterinsurgency*. The chapter will also explain how Airmen discussed Airpower's role in COIN and how, finally, the discourse on warfare would then again restart discussions if COIN would be part of the next *future war*.

Stability operations

Colin S. Gray, then *Professor of International Politics and Strategic Studies* and Director of the *Center for Strategic Studies* at the *University of Reading*, commented in Spring 2005 on the ongoing Operation *Iraqi Freedom*: *"There is some danger that the United States may be committed to a process of military transformation that is keyed to an inappropriately narrow vision of future war. Moreover, it is a vision that may lack empathy for development of a Plan B, should Plan A deliver less than decisive success."*[901] Gray criticized the *Transformation* concept in its entirety. As Lewis describes, warfare with advanced technologies, primarily Airpower, was supposed to win the war without the commitment of large numbers of ground troops.[902] But Conrad C. Crane, Director of the *United States Army Military History Institute*, described how that assumption or prerogative did hinder a quick *stabilization*: *"Beginning occupations with a strong, pervasive ground presence to control and intimidate looters and deter potential resistance is always the best course of action, but this did not*

[901] Gray, Colin S.: How Has War Changed Since the End of the Cold War?, in: Parameters, Spring 2005, p. 14-26, here p. 15.
[902] Lewis, The American Culture of War, p. 456.

occur in Iraq in 2003."[903] Steven Metz and Raymond Millen at the *Strategic Studies Institute*, *United States Army War College* described the flaws in American planning as well: *"American planners appear to have underestimated the degree of instability that emerged when the old system collapsed. They expected many Iraqi military and police units to remain intact and switch loyalties, but none did. As a result, the United States did not have adequate forces on hand to deal with the massive looting and instability."*[904] And Lieutenant Colonel John Gordon IV as well as Colonel Jerry M. Sollinger with RAND did argue in favor of Landpower:

> *"As has been demonstrated several times since the Gulf War, ground forces are critical for peacekeeping and peace enforcement, as well as other stability operations. It takes large numbers of ground forces – well armed, well equipped, and with the necessary command and control apparatus – to carry out these types of operations. Importantly, these are precisely the kinds of missions that will predominate in the next decade or longer."*[905]

The *stability operations* which now gained a foothold in the discourse on warfare certainly favored Landpower as the type of force which was able to hold ground. But neither in *AirLand Battle* nor in the concepts surrounding *Transformation* ever had been huge numbers of ground troops to hold terrain mentioned (even in LIC!). While Airpower proponents and Army leadership as well had promoted quick and *decisive* operations in the late 1990s and early 2000s, now there seemed suddenly to be another idea about what Landpower was made for, *stability operations*. In this type of operation, the adversary to be encountered did look and act differently as the one imagined with NCW or EBO. Colonel Richard D. Hooker, Jr., commanding the *XVIII Airborne Corps Combat Support Brigade* in Iraq in summer 2005, wrote how the operations conducted after the *major combat operations* differed from them and were a challenge:

> *"In many ways the military problem in Iraq is harder today than it was during major combat operations. Only rarely can we expect to know in advance our enemy's*

[903] Crane, Conrad C.: Phase IV Operations: Where Wars are Really Won, in: Military Review, May-June 2005, p. 27-35, here p. 29.
[904] Metz, Steven / Millen, Raymond: Intervention, Stabilization, and Transformation Operations: The Role of Landpower in the New Strategic Environment, in: Parameters, Spring 2005, p. 41-52, here p. 43.
[905] Gordon IV, John / Sollinger, Jerry: The Army's Dilemma, in: Parameters, Summer 2004, p. 33-45, here p. 41.

intentions, location, and methods. In this sense, seizing and maintaining the initiative, at least tactically, is a difficult challenge."[906]

Lieutenant Colonel Robert M. Cassidy, a member of the *United States Army, Europe, Commanding General's Initiatives Group*, described how the Army had marginalized the type of war it was now actually fighting: *"As a result of marginalizing the counterinsurgencies and small wars that it has spent most of its existence prosecuting, the US military's big-war cultural preferences have impeded it from fully benefiting – studying, distilling, and incorporating into doctrine – from our somewhat extensive lessons in small wars and insurgencies."*[907] But Cassidy was positive that the Army would be able to adapt: *"However, the lessons from previous US military successes in fighting the elusive guerrilla show that with the right mindset and with some knowledge of the aforementioned methods, the war of the flea is in fact winnable."*[908] The *"war of the flea"* hereby stood for the *asymmetric* type of war an inferior enemy had to fight against the United States. Cassidy hereby referenced to Robert Taber's *War of the Flea: The Classic Study of Guerrilla Warfare*[909], originally published in 1965. Taber described how the guerrilla would fight the *"war of the flea"* whereas his military enemy would suffer the dog's disadvantages, having too much to defend against a too small, ubiquitous, and agile enemy to be able to come to grips with. Other authors, such as Lieutenant Colonel Conrad C. Crane were more critical towards the Army's abilities: *"American military forces would like to quickly win wars and go home, but the United States has rarely accomplished long-term policy goals after any conflict without an extended American military presence to ensure proper results from the peace."*[910] The enduring presence as described by Crane would be absolutely necessary, as Major General John R.S. Batiste, Commanding General, *1st Infantry Division,* and his Special Assistant Lieutenant Colonel Paul R. Daniels, wrote in 2005. *1st Infantry Division* had recently returned from Iraq: *"A true victor – long-term security and stability under competent civil and police authorities – will require persistence and patience. However, operations thus far appear to have validated the Army's doctrine of full-spectrum operations – kill or capture the enemy, change attitudes,*

[906] Hooker Jr., R. D.: Beyond Vom Kriege: The Character and Conduct of Modern War, in: Parameters, Summer 2005, p. 4-17, here p. 14.
[907] Cassidy, Robert M.: Back to the Street without Joy: Counterinsurgency Lessons from Vietnam and Other Small Wars, in: Parameters, Summer 2004, p. 73-83, here p. 75.
[908] Ibid. p. 83.
[909] Taber, Robert: War of the Flea: The Classic Study of Guerrilla Warfare, Herndon, VA, 2002.
[910] Crane, Phase IV Operations, p. 28.

and provide alternatives to insurgency."[911] *Persistence* and *patience* were inarguably linked to the *terminus stability operations* now used for the type of war fought. But Batiste and his subordinate saw the Army's doctrine fitting, however. Thomas R. Searle, a military defense analyst with the *Airpower Research Institute*, *College of Aerospace Doctrine*, joined in the view that operations in Iraq would last longer than doctrine expected: *"At a more basic level, our approach attempts to achieve rapid, decisive strategic effects on the enemy – and we assume that the enemy tries to do the same thing to us. Unfortunately, guerrillas follow a strategy of 'protracted war.'"*[912] British Brigadier Nigel Aylwin-Foster, *Deputy Commander of the Office of Security Transition in the Coalition Office for Training and Organizing Iraq's Armed Forces*, criticized the United States Army's doctrinal stance: *"In short, the U.S. Army has developed over time a singular focus on conventional warfare, of a particularly swift and violent style, which left it ill-suited to the kind of operation it encountered as soon as conventional warfighting ceased to be the primary focus in OIF."*[913] And John A. Lynn, Professor of History at the University of Illinois, looked forward to what the United States Armed Forces would have to accomplish in Iraq: *"American troops must concentrate on state-formation and peacemaking, which require different tactics than conventional operations and a different psychology than the warrior ethos."*[914] In sum, several authors criticized the Army for not being prepared at least doctrinally to fight the type of war now looming in Iraq. Colonel Richard D. Hooker Jr., commanding the *Combat Support Brigade* of the *XVIII Airborne Corps* deployed to Iraq, also criticized the *Transformation* idea: *"Indeed, advocates of military transformation in the United States assert that technology has redefined war altogether. Nothing could be more mistaken. While the methods used to wage war are constantly evolving, the nature and character of war remain deeply and unchangeably rooted in the nature of man."*[915] Other authors did proclaim a *Transformation* approach which was more suited to reality: *"While the Army should and must keep most of its focus on the high end of the conflict spectrum (that is, ultimately, what armed forces are*

[911] Batiste, John R.S. / Daniels, Paul R.: The Fight for Samarra: Full-Spectrum Operations in Modern Warfare, in: Military Review, May-June 2005, p. 13-21, here p. 21.
[912] Searle, Thomas R.: Making Airpower Effective against Guerrillas, in: Air & Space Power Journal, Fall 2004, p. 13-23, here p. 16.
[913] Aylwin-Foster, Nigel: Changing the Army for Counterinsurgency Operations, in: Military Review, November-December 2005, p. 2-15, here p. 9.
[914] Lynn, John A.: Patterns of Insurgency and Counterinsurgency, in: Military Review, July-August 2005, p.22-27, here p. 27.
[915] Hooker, Beyond Vom Kriege, p. 7.

created for), the reality is that the world and the nature of warfare are changing – indeed, much has changed already – and the Army must take a realistic approach to its current situation."[916] The argument, that the Army's focus must be on the *High-Intensity Conflict* would still remain part of the discourse on Landpower because in the self-image the Army has, its main purpose is to fight this type of war.

Indeed, as Serena criticizes in his monograph about the United States Army in Iraq, the *Transformation* concept's focus on *decisive* combat operations was detrimental to the units, which were then charged with prosecuting *stability operations* in Iraq despite claims that *Transformation* enabled these full-spectrum operations.[917] Metz would later-on state that *"If the United States had been prepared to undertake a massive stabilization and reconstruction effort in Iraq in the spring of 2003, the insurgency would never have reached the level that it has."*[918] Lewis argues that the people of Iraq naturally had expected the victorious coalition to fix their problems. And the victors themselves had expected to go home. But they had failed to recognize and understand the physical condition of Iraq and the psychological conditions of its people. As a consequence, a power vacuum emerged which then favored lawlessness and led to *insurgency*.[919] The flawed assumption that stability would be a *fait accompli* of *decisive* combat operations had already led to an institutional disregard of training for and conducting *stability operations* before the war began and then led to a mismatch between mission and capability, as Serena writes.[920] *"The doctrinal guidance provided prior to and during OIF was developed for an enemy and an operational environment where linearity prevailed and uniformity was the norm."*[921] In the eyes of the *Transformation* proponents, the modern battlefield was supposed to be programmatic and predictable. But the fight against an *insurgency* is not a technological task and predictability is unattainable.[922]

An enemy off the books

The United States' opponents, as Serena writes further, generally have two options: either to inflict high losses early in a conflict in an attempt to turn public opinion against the war, or to

[916] Gordon / Sollinger, The Army's Dilemma, p. 41-42.
[917] Serena, Revolution in Military Adaptation, p. 68.
[918] Metz, Steven: Learning from Iraq: Counterinsurgency in American Strategy, United States Army War College, Strategic Studies Institute, Carlisle, PA, 2007, p. 71.
[919] Lewis, The American Culture of War, p. 462.
[920] Serena, A Revolution in Military Adaptation, p. 59.
[921] Ibid. p. 67.
[922] Ibid. p. 106.

avoid a direct military confrontation and draw the conflict out over time.[923] Robert R. Tomes described as early as in spring 2004, how the enemy in Iraq had already reached that state:

> *"With the right cause, the insurgent can mobilize recruits. Combined with an intermixing of attacks on those aiding the new regime, a successful cause increases insurgent power while blunting the counterinsurgency's intelligence capabilities. Over time, as the new regime appears powerless to prevent terrorism and restore stability, the mobilization potential of the cause increases when propaganda arms of the insurgency identify the new regime as the root of instability. Arguably, the Iraqi counterinsurgency has entered this stage."*[924]

Tomes already in 2004 mentioned COIN, two years before FM *3-24* was published in 2006. Other authors, such as Eliot A. Cohen, the *Robert E. Osgood Professor at Johns Hopkins University's School of Advanced International Studies*, Lieutenant Colonel Conrad Crane, Lieutenant Colonel Jan Horvath, a doctrine writer at the CAC and Lieutenant Colonel John Nagl, a Military Assistant to the Deputy Secretary of Defense, did describe the *insurgent*, the type of enemy now to be fought: *"Today's competent insurgents are adaptive and are often part of a widespread network that constantly and instantly communicates."*[925] These authors were participating in the revision of FM *3-24*, *Counterinsurgency*. Retired Colonel Joseph D. Celeski, a contributing writer and Senior Research Fellow at the *Joint Special Operations University*, acknowledged as well the network which the enemy used: *"Modern insurgencies are networked, amorphous, headless, transnational, and criminal, and their doctrine is a complex gray stew."*[926] And Major Lee K. Grubbs, Executive Officer, *2nd Brigade Special Troops Battalion*, as well as Major Michael J. Forsyth, Executive Officer, *4th Battalion, 25th Field Artillery*, did also describe the enemy's transnational structure: *"The enemy has no national borders or traditional infrastructure."*[927] Therefore the enemy in a *stability operation* did not fit into the image of war the Army had indeed propagated during the past 20 years: that of a nation state.

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[923] Hooker, Beyond Vom Kriege, p. 15.
[924] Tomes, Robert R.: Relearning Counterinsurgency Warfare, in: Parameters, Spring 2004, P. 16-28, here P. 21-22.
[925] Cohen, Eliot / Crane, Conrad / Horvath, Jan / Nagl, John: Principles, Imperatives, and Paradoxes of Counterinsurgency, in: Military Review, March-April 2006, p. 49-53, here p. 52.
[926] Celeski, Joseph D.: Strategic Aspects of Counterinsurgency, in: Military Review, March-April 2006, p. 35-41, here p. 37.
[927] Grubbs, Lee K. / Forsyth, Michael J.: Is There a Deep Fight in a Counterinsurgency?, in: Military Review, July-August 2005, p. 28-31, here p. 28.

While the Army had neglected the *Low-Intensity* threat in the past few years, participants in the warfare discourse now claimed that there exists even a *modern insurgent*. The problems the United States Armed Forces found while fighting against *insurgents* principally contradicted the image of war against a nation state, whatever technological abilities it had. Thomas R. Searle with the *Airpower Research Institute* wrote: *"These new enemies generally lack the discipline and access to high-technology weapons typical of Cold War insurgents, but their undisciplined nature and the ever-evolving mix of different elements make them enormously complex. Worse yet, the old Cold War restraints have fallen away."*[928] The boundaries, not only geographical, but as well structural and intellectual, posed a seemingly big problem. And what made the problem even more immense was that there was not only one enemy to fight against, there were different, with differing concepts, but with one objective, as Thomas R. Mockaitis wrote in an *Army War College* study: *"The various insurgent groups have a clear goal and a simple, effective strategy for achieving it. Whatever their differences, they all want the United States and its allies to leave Iraq. They know full well that they can never defeat coalition forces. They do not, however, need to do so to succeed. They need only undercut the political will to continue to the struggle."*[929] Mockaitis did, rightly so, as well mention the population of the United States as a part of the struggle: *"The decisive battle may take place, not in the streets of Baghdad, but in the living rooms of America."*[930] Mockaitis therewith brought a rather old concept back into the discourse: The *homefront*, where wars could be won or lost as well at home, especially those which are enduring. Similarly argued Brigadier General Charles J. Dunlap, Jr., the Staff Judge Advocate, HQ *Air Combat Command*: *"Most opponents of the United States no longer pursue traditional military victory, per se. Instead, they try to get us to perceive that the goal no longer justifies the anticipated sacrifice of American blood and treasure."*[931] A protracted war against an enemy who did inflict losses on United States forces would, over time, possibly reduce support for the war effort. Dunlap reiterated later: *"For insurgents, the center of gravity of American COIN forces is not their combat capability. It is the casualty-tolerance of*

[928] Searle, Making Airpower Effective against Guerrillas, p. 14-15.
[929] Mockaitis, Thomas R.: The Iraq War: Learning from the Past, adapting to the present, and planning for the Future, United States Army War College, Strategic Studies Institute, Carlisle, PA, 2007, p. 31.
[930] Mockaitis, The Iraq War, p. 31f.
[931] Dunlap, Charles J. Jr.: Neo-Strategicon: Modernized Principles of War for the 21st Century, in: Military Review, March-April 2006, p. 42-48, here p. 43.

the US public that must, in a democracy, ultimately support long-term troop deployment."[932] Robert R. Tomes did even question the political will of the coalition: *"In previous counterinsurgencies, success required long occupation, something requiring a degree of political will that the current Coalition in Iraq may not have."*[933] And Sarah E. Kreps, a senior fellow at the *Institute of International Law and Politics* and an adjunct professor of political science at *George Washington University,* argued similarly: *"The centers of gravity against asymmetric adversaries may not be their infrastructure and command and control nodes, which are severely lacking compared to regular armies. Lacking high-value assets, the centers of gravity for asymmetric adversaries may become their citizens' political will."*[934] Most certainly, the Vietnam memory was setting in again, as Lewis writes. With Kreps there could as well be found EBO parlance again (*center of gravity, node*). The United States Armed Forces could not be defeated in the field, whether in Iraq nor in Afghanistan. However, over time the expenditure of lives as well as hundreds of billions of dollars threatened to destroy the support of the American people. In other words, the war could well be lost in the United States, at the home front.[935] This idea did surely awake memories, especially among those who were thought military history (for example about Vietnam). The concept of the *homefront* did gain renewed importance, not only because of the enduring nature of OIF and OEF, but rather as the military community realized which role, on one side, the media could play, and on the other side, how important losses were in times of post-heroism.

Meanwhile, not only where the so-called *insurgents* (who in the eyes of the United States government could only be *insurgent* versus the administration in Iraq which it had installed) networked and transnational, they blended as well into the population of Iraq in a difficult situation. Anna Mulrine, senior editor and defense correspondent for *US News & World Report* magazine, who reported frequently from Iraq and Afghanistan, wrote in the *Air Force Magazine*: *"In counterinsurgency wars, the line between civilians and insurgents gets blurry, since insurgents and noncombatants live side by side."*[936] And Lee K. Grubbs together with Michael J. Forsyth argued: *"For example, an operational center of gravity in a hypothetical*

[932] Dunlap, Jr., Charles J.: Shortchanging the Joint Fight: An Airman's Assessment of FM 3-24 and the Case for Developing Truly Joint COIN Doctrine, Air University Monograph, Maxwell AFB, AL, 2008, p. 34f.
[933] Tomes, Relearning Counterinsurgency Warfare, p. 19.
[934] Kreps, Sarah E.: The 2006 Lebanon War: Lessons Learned, in: Parameters, Spring 2007, p. 72-84, here p. 82.
[935] Lewis, The American Culture of War, p. 473.
[936] Mulrine, Anna: Warheads on Foreheads, in: Air Force Magazine, October 2008, p. 44-47, here p. 47.

insurgency might be a sanctuary within a sympathetic population. Denial of sanctuary would theoretically cause the insurgency to wither because of an inability to establish a safe base of operations."[937] Not only are there obvious elements of the *center of gravity* language to be found, but as well the population as a safe haven for the enemy. Therefore, the population had to be addressed first and foremost, as Troy Anthony Clay wrote: *"U.S. success in Iraqi stability operations centers on its ability to establish a secure and stable environment. This by far has been the toughest challenge in Iraq. The inability of the U.S. and coalition forces to reestablish security has not only led to the large-scale insurgency in Iraq, but has also completely eroded the goodwill of the Iraqi people that we once enjoyed."*[938] And Steven Metz suggested together with Raymond Millen, that there would be a concept necessary to stabilize Iraq which included psychology:

> *"This concept needs to be solidly grounded in mass psychology, with the full integration of cultural distinctions. It should identify the type and phasing of military activities most likely to restore stability under specific conditions. […] And a new counterinsurgency concept is required to replace the current Cold War-era one, a concept that takes into account protracted opposition. The Army has published a new counterinsurgency doctrine, but this treats 20th-century, Maoist-style insurgency as a universal model, thus limiting its utility."*[939]

The demand for a new *Manual* and new doctrine would indeed be fulfilled later on. The population as *center of gravity* in Iraq was therefore already well established. Interestingly, the *techno-centric* EBO language could now obviously as well be applied to *population-centric stability operations*. Kalev I. Sepp, an assistant professor at the *Department of Defense Analysis, Naval Postgraduate School*, used the *terminus center of gravity* as well: *"The focus of all civil and military plans and operations must be on the center of gravity in any conflict – the country's people and their belief in and support of their government."*[940] Hereby it is to be mentioned how the *center of gravity* was rather differently interpreted during the three decades analyzed in this thesis. Originating from a more geographical or equipment-related idea, the *center of gravity* became a rather esoteric target of *"precision"*

[937] Grubbs, Lee K. / Forsyth, Michael J.: Is There a Deep Fight in a Counterinsurgency?, in: Military Review, July-August 2005, p. 28-31, here p. 30.
[938] Clay, Troy Anthony: Stability Operations: Learning from Operation Iraqi Freedom, USAWC Strategy Research, United States Army War College, Carlisle, PA, 2007, p. 9.
[939] Metz / Millen, The Role of Landpower, p. 48.
[940] Sepp, Kalev I.: Best Practices in Counterinsurgency, in: Military Review, May-June 2005, p. 8-12, here p. 9.

weapons in EBO and now got as far as being the civilian side in COIN. But Christopher M. Schnaubelt, Deputy Director for *National Security Affairs*, *Joint Strategic Planning and Assessment Office*, at the United States Embassy Baghdad, did not believe that the United States had the abilities necessary to influence the population in Iraq: *"The US military may be losing ground in the area where it is most vulnerable: the ability to influence civilian populations and – in concert with other US government agencies, allies, and international organizations – to provide basic needs and economic growth while concurrently developing national political structures and governing capacity."*[941] Robert R. Tomes as well was negative in this regard: *"Despite unparalleled improvements in military intelligence, the United States does not seem to have the depth and breadth required in human intelligence (humint) and cultural intelligence arenas."*[942] But there were officers such as Major General Peter W. Chiarelli, *Commanding General* of the *1st Cavalry Division,* who wanted to appreciate the situation correctly and try to stabilize Iraq by turning to the population and convince them of their cause: *"We considered the fence-sitters as the operational center of gravity for both Task Force Baghdad and insurgent forces."*[943] The fence-sitters were those Iraqis that, in the eyes of Chiarelli, did watch the situation from the outside of the *"playing field"*. Chiarelli and his co-author suggested more than only *kinetic* means to improve the situation: *"It is no longer sufficient to think in purely kinetic terms. Executing traditionally focused combat operations and concentrating on training local security forces works, but only for the short term. In the long term, doing so hinders true progress and, in reality, promotes the growth of insurgent forces working against campaign objectives. It is a lopsided approach."*[944] *Kinetic* was a rather new *terminus* used to describe military means, especially *"firepower"*. In the opinion of Chiarelli, a more diverse approach was necessary: *"A confluence of military and nonmilitary operations defeats the insurgent. This requires an organization vested with the power to coordinate political, social, economic, and military elements."*[945]

[941] Schnaubelt, Christopher M.: Whither the RMA?, in: Parameters, Autumn 2007, p. 95-107, here p. 104.
[942] Tomes, Relearning Counterinsurgency, p. 19.
[943] Chiarelli, Peter W. / Michaelis, Patrick R.: Winning the Peace – The Requirement for Full-Spectrum Operations, in: Military Review, July-August 2005, p. 4-17, here p. 6.
[944] Chiarelli, / Michaelis, Winning the Peace, p. 15.
[945] Tomes, Relearning Counterinsurgency, p. 23.

Stabilization and reconstruction

Therefore, *reconstruction* was then labelled as one of the countermeasures to the *insurgent* threat, differing much from the *kinetic* approach. Lieutenant Colonel Mick Ryan, Commanding Officer of the *1st Combat Engineer Regiment*, Australian Army:

> *"Every insurgency is unique; however, military-led reconstruction operations do provide the counterinsurgent with a powerful tool to shift support of the populace away from insurgents. Possessing the ability to destroy the enemy and make them irrelevant to the population through reconstruction operations is a powerful tool in any synchronized counterinsurgency strategy."*[946]

Ryan as a member of the Australian Army had worked alongside United States Army units and took therefore part in the same discussions, perhaps with a different perspective. The *terminus reconstruction operations* suggested that the military should now as well re-build a nation's infrastructure. And that would, rather interestingly, contradict the Army's image of war. Possibly the authors participating in the discourse on warfare tried to show how relevant the Army indeed was for the *Full Spectrum*. What Ryan brought back into the discourse on warfare in the realm of the COIN idea was the *"synchronization"* which had already been an important part of the *AirLand Battle*. But nonetheless, in the first few years of the occupation, the United States just tried to kill the enemy, as it did in previous wars, and as the Army and Air Force wanted to do with their *Full Spectrum* doctrines. Lieutenant Colonel Jim Baker, working on the staff of the *Under Secretary of Defense for Acquisition, Technology and Logistics*, criticized this kind of approach: "*It appears straightforward to measure success in terms of dead or detained insurgents, and captured weapons, supplies, or territory. Certainly, this appears to be the most appropriate initial response to insurgent attacks and, perhaps, the best way to 'drain the swamp' in an effort to avoid future violence."*[947] Baker saw two flawed assumptions with the so-called *kinetic* approach: *"Yet, in this example, the would-be strategist has made two key assumptions that may prove to be untrue. The first being that more insurgents are being killed than are being replaced by whatever government tactics employed. Second that fewer insurgents means fewer attacks."*[948] Here one can see certain lessons learned from the Vietnam War, where United

[946] Ryan, Mick: The Military and Reconstruction Operations, in: Parameters, Winter 2007-08, p. 58-70, here p. 69.
[947] Baker, Jim: Systems Thinking and Counterinsurgencies, in: Parameters, Winter 2006-07, p. 26-43, here p. 30.
[948] Ibid. p. 41.

States officers had not only counted but also estimated casualties among their enemy. Steven Metz argued similarly: *"The implications are stark; in the face of systemic failure, simply crushing insurgents and augmenting local security forces may not be enough to stem instability."*[949] Metz therefore as well supported the idea of a *comprehensive* strategy to counter the enemy which encompassed not only military countermeasures, but as well civilian e.g. *reconstruction*:

> *"A comprehensive counterinsurgency strategy should offer alternative sources of identity and empowerment for the bored, disillusioned, and disempowered. Simply providing low-paying, low-status jobs or the opportunity to attend school is not enough. Counterinsurgents – including the United States when it provides counterinsurgency support – need to recognize that becoming an insurgent gives the disenfranchised a sense of belonging, identity, and importance."*[950]

And *comprehensive* was as well labelled by Metz as encompassing the whole live and even feelings of the population which now had to be accounted for. Eliot Cohen and his co-authors, working on the new COIN *Manual 3-24* stated as well in their article: *"Mounting an operation that kills 5 insurgents is futile if collateral damage leads to the recruitment of 50 more."*[951] Lewis writes in his monograph on the *American Culture of War*, how in COIN operations, it mattered that soldiers do not hide behind walls, in camps or in their vehicles: *"A hundred soldiers out patrolling the streets and engaging the people can be more effective than a hundred soldiers mounted in M1 Abrams Tanks and M2 Bradley Fighting Vehicles."*[952] The United States Armed Forces' initial hesitance to patrol the streets and rather barricade themselves in huge fortified bases would not help get things right with the population. While the *M1 Abrams* and the *M2 Bradley* had been hailed as *decisive* in the *high-intensity* phase of OIF, now they seemed to be too menacing and powerful for *stability operations*. For the United States Armed Forces, as military part of a western democracy, the use of heavy weapons to terrorize civilians never appeared either doctrinally and morally sound. But at

[949] Metz, Steven: New Challenges and Old Concepts: Understanding 21st Century Insurgency, in: Parameters, Winter 2011-12, p. 1-12, here p. 3. This article was first published in the Winter 2007-08 issue of Parameters and is based on Metz' monograph Rethinking Insurgency, United States Army War College, Strategic Studies Institute, Carlisle, PA, June 2007.
[950] Metz, New Challenges and Old Concepts, p. 8.
[951] Cohen, Eliot / Crane, Conrad / Horvath, Jan / Nagl, John: Principles, Imperatives, and Paradoxes of Counterinsurgency, in: Military Review, March-April 2006, p. 49-53, here p. 51.
[952] Lewis, The American Culture of War, p. 480.

the same time, it seemed to be difficult to get the image of war to adapt to a reality where heavy weapons did not play center stage.

An important part of the campaign against the *insurgency* would therefore rather be *Information Operations* (IO), another part of the *comprehensive* concept. *"Information"* hereby was not meant as the source for the United States' advantages in the realm of *Transformation*. It was rather the realization that the communication to the civilian populace, or propaganda, was an important instrument to defeat an *insurgency*. Retired USMC Colonel Thomas X. Hammes argued: *"Strategically, insurgent campaigns have shifted from military campaigns supported by information operations to strategic communications campaigns supported by guerrilla and terrorist operations."*[953] Hammes wrote further, how the enemy used modern means of communication: *"Insurgents have been quick to exploit such powerful communication tools as the cell phone and the Internet for recruiting, training, communicating, educating, and controlling new members. They have shifted from mass mobilization to targeted individual mobilization."*[954] Lieutenant General Thomas F. Metz, *Deputy Commanding General*, TRADOC, therefore suggested: *"We must learn to employ aggressive IO. We cannot leave this domain for the enemy; we must fight him on this battlefield and defeat him there just as we've proven we can on conventional battlefields."*[955] And Lieutenant General Peter W. Chiarelli, then senior military assistant to the *Secretary of Defense*, and Major Stephen M. Smith, a military assistant in the *Office of the Secretary of Defense*, suggested that the enemy was not abiding to the same rules as the United States: *"Not bound by the same rules we work under, the enemy's information attacks are very effective. Too often we have failed to take the initiative or even effectively defend ourselves in the information environment. We must look at ways to improve our competitiveness in this critical area."*[956] Both authors as well claimed that the enemy was probably better at IO: *"Currently, we do not respond well enough to deal effectively with enemies who can say whatever they want without retribution."*[957] Sarah E. Kreps argued similarly: *"In these asymmetric settings, much of the conflict may play out in the battlefield of the media."*[958] But

[953] Hammes, T. X.: Fourth Generation Warfare Evolves, Fifth Emerges, in: Military Review, May-June 2007, p. 14- 23, here p. 14.
[954] Ibid. p. 20.
[955] Metz, Thomas F. et al: Massing Effects in the Information Domain – A Case Study in Aggressive Information Operations, in: Military Review, May-June 2006, p. 2-12, here p. 4.
[956] Chiarelli / Smith, Learning from Our Modern Wars, p. 10.
[957] Ibid. p. 11.
[958] Kreps, Sarah E.: The 2006 Lebanon War: Lessons Learned, in: Parameters, Spring 2007, p. 72-84, here p. 82.

it may have been possible that the United States Armed Forces at that time were like prisoners of their own language, their own discourse on war and its underlying logic. Media and corresponding IO were therefore identified as one of the less regarded elements of a concept to defeat an *insurgency*. However, more was necessary.

The enemy as a network

Colonel Peter R. Mansoor was the founding director of the *United States Army and United States Marine Corps Counterinsurgency Center*. As executive officer to the *Commanding General*, *Multi-National Force-Iraq* he wrote about the analysis of the *centers of gravity* in COIN together with Major Mark S. Ulrich, a *Special Forces* officer with COIN experience in South America and the Middle East, then assigned to the *Counterinsurgency Center*: *"Our aim is to understand the enemy's specific strategy, get inside his decision cycle, and predict his likely actions."*[959] Not only did Mansoor and Ulrich get back to Boyd's OODA loop, they wanted to get to the root causes of the conflict in Iraq, using *center of gravity* analysis: *"COIN COG analysis encourages the counterinsurgent to undertake tactical actions that address the root causes of conflict. It enables the counterinsurgent to achieve lasting effects that will survive successive unit rotations."*[960] Colonel Dale C. Eikmeier, a faculty member at the *Army War College*, as well promoted a *systematic* approach: *"The only accurate way to determine a center of gravity involves using systems theory and taking a holistic viewpoint; anything else is just guesswork."*[961] Eikmeier as well had to contend that there was no single *center of gravity*, as suggested by those who saw the population as the single one: *"The enemy is a hydra with numerous heads and no single center of gravity."*[962] It fits to Army thinking and discourse if an AWC faculty member joins an ancient serpentine water monster with reptilian traits from Greek and Roman mythology with EBO. But speaking about an enemy with connections to mythology and trying to fight him were two very different things. Colin S. Gray nonetheless saw the population as COG on COIN: *"In COIN, the center of gravity is the people and their protection. The battlefield of most significance is the mind of the public. If people can be protected and believe they are protected, COIN is well on the way to*

[959] Mansoor, Peter R. / Ulrich, Mark S.: Linking Doctrine to Action: A New COIN Center-of-Gravity Analysis, in: Military Review, September-October 2007, p. 45-51, here p. 45.
[960] Ibid. p. 48.
[961] Eikmeier, Dale C.: A Logical Method for Center-of-Gravity Analysis, in: Military Review, September-October 2007, p. 62-66, here p. 63.
[962] Mockaitis, The Iraq War, p. 26.

success, if not outright victory."[963] And Gray's recipe would then be, accordingly: *"If insurgents lose in the minds of the people, they lose, period. With superior intelligence, COIN wins."*[964] But a few years before *Joint Forces Command Commanding General* James N. Mattis would ban EBO thinking from his doctrine documents in 2008, a submarine officer, Lieutenant Commander Muckian suggested the following steps to analyze *insurgency*:

> *"The first step is to understand that the enemy is a network, not a hierarchy. Imposing a hierarchical framework on an amorphous organization will only hinder efforts. […] The next step is to understand that networks are very difficult to destroy, but they can be disrupted. […] First, attack critical nodes for maximum disruptive effect. […] Second, networked insurgencies do not necessarily have strong political cohesion. Attack the narrative by forcing the insurgency to respond to issues that are outside its scope – this can disrupt or even fracture the movement as each group responds to the issue according to its own ideology. Ideological differences are a primary cause of fracturing within networked groups. […] Third, attack the sources of support. This cannot be done effectively through traditional population control measures; the counterinsurgency must understand where the movement obtains its resources. […] Fourth, attack the information technology infrastructure of the network. A network is absolutely dependent on robust communications to function."*[965]

When counting the word *attack* in this paragraph, one gets the feeling that only action or intervention is possible. Perhaps the Armed Forces are, in their own image of war, only capable, even forced to act. Muckian hereby brought most of the EBO terms and *termini* into COIN: the *"effect"*, *nodes*, the network (e.g. *system*) and *"efficiency"*. This thinking would at least partially influence the writers of FM *3-24 Counterinsurgency*, a *Manual* published in 2006.

The new FM 3-24 in 2006

The team of authors editing FM *3-24, Counterinsurgency*, was led by Army General David H. Petraeus and Marine General James F. Amos. Petraeus had led the *101st Airborne Division* in 2003 and 2004 in Iraq. In-between returning in 2007 with his own *Manual*, he had also been head of the training of Iraqi forces. An airborne or light infantryman by military education

[963] Gray, Colin S.: Irregular enemies and the essence of strategy: can the American Way of War adapt?, United States Army War College, Strategic Studies Institute, Carlisle, PA, March 2006, p. 20.
[964] Ibid. p. 20f.
[965] Muckian, Martin J.: Structural Vulnerabilities of Networked Insurgencies: Adapting to the New Adversary, in: Parameters, Winter 2006-07, P. 14-25, here P. 23.

and training, Petraeus had already in the 1980s thought and written about other forms of warfare than *High-Intensity Conflict*. As a Major and Assistant Professor in the *Department of Social Sciences*, *United States Military Academy*, Petraeus wrote in 1986 in *Parameters*:

> *"There has been developing, however, gradual recognition that involvement in small wars is not only likely, it is upon us. It would seem wise, therefore, to come to grips with what appears to be an emerging fact for the US military, that American involvement in low-intensity conflict is unavoidable given the more assertive US foreign policy of recent years and the developments in many Third World countries, particularly those in our own hemisphere."*[966]

Petraeus' vision would come true not only (on a lower level) in the 1990s, but more intensively in Iraq and Afghanistan. After returning to Iraq as *Commanding General* of the *Multi- National Force-Iraq* (MNF-I), Petraeus published his own guidelines: [967]

> *"Develop the plan for holding an area before starting to clear it."*
>
> *"Map the human terrain and study it in detail."*
>
> *"Every action taken by the enemy and our forces has implications in the public arena."*
>
> *"Living our values distinguishes us from our enemies."*
>
> *"Never forget that what works in an area today may not work there tomorrow, and that what works in one area may not work in another."*

Petraeus used a new *terminus* especially fitted to the COIN problem: the *human terrain*. This seemed to signify the one part of *"modern war"* that could not that easily be grasped by military doctrine. But *terrain* is a typical military expression, a very geographical, physical one; now applied to and joined with a very non-physical entity: the human. At the same time, Petraeus expected self-reflection by his own troops. Petraeus emphasized his approach in a letter to the troops in Iraq: *"Accomplishing this mission requires carrying out complex military operations and convincing the Iraqi people that we will not just 'clear' their neighborhoods of the enemy, we will also stay and help 'hold' the neighborhoods so that the 'build'*[968] *phase that many of their communities need can go forward."*[969] Petraeus and his

[966] Petraeus, David H.: Lessons of History and Lessons of Vietnam, in: Parameters, Winter 2010-11, p. 48-61, here p. 56. This article was first published in the Autumn 1986 issue of Parameters.

[967] Petraeus, David H.: Multi-National Force-Iraq Commander's Counterinsurgency Guidance, in: Military Review, September-October 2008, p. 2-4, here p. 2.

[968] The concept of *Clear-Hold-Build* is a modification to the *clear and hold* strategy which was first developed by Sir Robert Thompson and the British Army during the Malayan Emergency from 1948 to 1960. Cf. Joes, Anthony

FM *3-24* author team among other things proposed to map the *human terrain*. Therewith another facet of the modern *battlespace* took to the center stage. And Justin C. Gubler told how the soldiers and marines would have to work on the *human terrain*: *"The only way for the U.S. to positively influence the mindset of an Iraqi is to build a relationship with him; this requires frequent visits and hours of socializing."*[970] But there too did arise critics, such as Frank G. Hoffmann, a retired marine infantry officer and a national security consultant: *"What the field Manual does not do is assist future commanders in understanding how different organizations, having different structures, operating methods and strategic objectives, may require a different strategies or doctrinal approaches."*[971] And in the eyes of Hoffmann, the *Manual* did as well not work enough with IO: *"The new manual does recognize the importance of the information dimension, but devotes just three and a half pages to the issue of media and information operations."*[972] COIN expert David Fitzgerald criticizes then that while FM *3-24* did mark a significant shift from previous doctrine and effectively reintroduced COIN to the Army's image of war for the first time since Vietnam (the 1986 *Manual* on *Counterguerrilla* operations and the 2004 interim *Field Manual* notwithstanding), the shift was only confirmed with the publication of the next FM *3-0* in 2008.[973] FM *3-24* suggested how military or, *kinetic*, measures and civilian projects should be rather optimally synchronized to combat the *insurgency*. Quality of life was dubbed much more important than the result of operations to kill *insurgents*. In different phases, the country where COIN took place had to be stabilized along *Logical Lines of Operations* (LLO) derived from an analysis of the *insurgency*. But to enact the doctrine as described by the *Manual*, the Army would have had to fundamentally rethink its service culture. Lots of historical vignettes and a scholarly bibliography contained in the *Manual* are described by Fitzgerald as an attempt to help reshape that culture by contesting the historical memory that forms such an important part of that culture.[974] And the new strategy for COIN then was

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James: America and Guerrilla Warfare, Lexington, 2004, p. 254; see also, generally, Thompson, Sir Robert: Defeating Communist Insurgency: Experiences from Malaya and Vietnam, New York, 1978.

[969] Petraeus, David H.: Letter to Members of MNF-I, 15 March 2007, AHEC, General Petraeus Letters to Troops of the Multi-National Force-Iraq, 2008.

[970] Gubler, Justin C.: Reconciling Counterinsurgency with Civil War: A Strategy for Stabilizing Iraq, USAWC Strategy Research Project, United States Army War College, Carlisle, PA, 2007, p. 7.

[971] Hoffman, Frank G.: Neo-Classical Counterinsurgency?, in: Parameters, Summer 2007, p. 71-87, here p. 75.

[972] Ibid. p. 80.

[973] Fitzgerald, Learning to forget, p. 179.

[974] Ibid. p. 170.

not entirely based on humanitarian impulses; violence – and coercion – had their place.[975] Thomas H. Johnson, a research professor for the Department of *National Security Affairs* and director of the *Program for Culture and Conflict Studies* at the *Naval Postgraduate School*, criticized together with M. Chris Mason, a retired Foreign Service officer who served in 2005 as political officer for the *Provincial Reconstruction Team* (PRT)[976] in Paktika, Afghanistan, how the new doctrine (or strategy) was put to use in Afghanistan and Iraq: *"In both countries, heavy-handed and culturally offensive U.S. troop behavior and indiscriminate use of fire support turned rural villages into enemy recruiting centers."*[977] Colin S. Gray argued that COIN doctrine is correct to identify enemy sanctuaries as important targets. But it must be apparent that the key to defeating an *insurgency* cannot lie in the removal of sanctuaries, as important though that must be.[978] Johnson and Mason as well alleged that the United States Armed Forces again did not understand against whom they fought: *"By misunderstanding the basic nature of the enemy, the United States is fighting the wrong war again, just as we did in Vietnam. It is hard to defeat an enemy you do not understand."*[979] They even suggested that the United States had somehow fought the wrong war in Afghanistan: *"For eight years in Afghanistan we have fought exactly the way the enemy expected and hoped we would."*[980] Gray as well wrote in 2006: *"From the Indian Wars on the internal frontier, to Iraq and Afghanistan today, the American way of war has suffered from the self-inflicted damage growing out of a failure to understand the enemy of the day."*[981] Bing West, a former assistant secretary of defense and a combat Marine, author of numerous military books and articles, including *The Villager: A Combined Action Platoon in Vietnam*, and *The Strongest Tribe: War, Politics and the End Game in Iraq*, even criticized the mass media in the United States for cheering Petraeus' new doctrine:

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[975] Fitzgerald, Learning to forget, p. 178.

[976] *Provincial Reconstruction Teams* originated in Afghanistan in early 2002, as *Coalition Humanitarian Liaison Cells*. The idea was to assess humanitarian needs and implement small-scale *reconstruction* projects as an extension of security and stability operations. By the end of 2002 these cells were expanded to include security forces and representatives of the United States government and accordingly renamed PRTs. The United States defined the mission of the PRTs as encompassing providing security through development and *reconstruction* and extending the reach and influence of both the coalition forces and the Afghan Government. Cf. understandingwar.com, accessed 04/07/2015.

[977] Johnson, Thomas H. / Mason, M. Chris: Refighting the Last War: Afghanistan and the Vietnam Template, in: Military Review, November-December 2009, p. 2-14, here p. 3.

[978] Gray, Irregular enemies, p. 26.

[979] Johnson, Thomas H. / Mason, M. Chris: Refighting the Last War: Afghanistan and the Vietnam Template, in: Military Review, November-December 2009, p. 2-14, here p. 4.

[980] Johnson / Mason, Refighting the Last War, p. 7.

[981] Gray, Irregular enemies, p. 34.

> *"Similar to Galula's achievement in persuading academics, the theories espoused in FM 3-24, Counterinsurgency, persuaded the mainstream media that General Petraeus's forthcoming campaign in Baghdad was righteous. The FM appealed to liberals because it posited the concept of war without blood. Enemies were converted rather than killed. It was the only FM ever accorded a New York Times book review, written by a Harvard professor. In Iraq, every American brigade began to work along four lines of operation: economy, governance, security, and services."*[982]

West demanded that the services teach more about the uncertain parts of war: *"Our COIN doctrine needs a section devoted to uncertainty and humility. We cannot predict when and why people change allegiances."*[983] Doctrine analyst and researcher Harald Høiback in a 2011 article wrote how even formal doctrine could be electrified by linking it to a face and a history and in his eyes, that was the case with FM *3-24*. Høiback argues that by adding Petraeus' name to the document it ties it into a greater story, namely Petraeus' personal history. *"In addition to being one of the doctrine's main contributors, Petraeus is a man who combines bravery in battle, wisdom in war, and a PhD in international relations, perhaps a perfect combination for fuzzy conflicts."*[984] But mostly, Petraeus's words focused on the people of Iraq and the actions of the United States soldiers and marines to influence the people. Not one of his observations was devoted to finding, fixing, and killing the enemy nor was he overly focusing on force-protection.[985]

Airpower's role in COIN

But much critique towards FM *3-24* and COIN came from Airpower proponents. Major General Charles J. Dunlap, Jr., *Deputy Judge Advocate General of the United States Air Force*, did not like how the Air Force saw itself in COIN operations: *"Thus, it [the Air Force] undervalues the function of force in suppressing intractable insurgents. Perhaps most surprising is its seeming replication of FM 3-24's relegation of airpower to an 'enabling' role as opposed to that of an independent maneuver force."*[986] Dunlap further accused FM *3-24* of being a *"surface-minded"* doctrine document, not taking Airpower into account correctly:

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[982] West, Bing: Counterinsurgency Lessons from Iraq, in: Military Review, March-April 2009, p. 2-12, here p. 6.
[983] West, Counterinsurgency Lessons, p. 10.
[984] Høiback, Harald: What is Doctrine?, in: Journal of Strategic Studies, Vol.34:6, 2011, p. 879-900, here p. 889.
[985] Lewis, The American Culture of War, p. 477.
[986] Dunlap Jr., Charles J.: Making Revolutionary Change: Airpower in COIN Today, in: Parameters, Summer 2008, p. 52-66, p. 60.

"Unfortunately, that doctrine relegates airpower to a five page annex in a 282 page document."[987] And Lieutenant Colonel Paul D. Berg argued similarly:

> *"Airpower's proper role in IW [Irregular Warfare] has become a controversial topic. Complex challenges typically call for integrated joint and interagency solutions, yet some military doctrine depicts IW as a ground-centric activity in which air-power serves only a narrow, supporting role. Army Field Manual (FM) 3-24/Marine corps Warfighting Publication (McWP) 3-33.5, Counterinsurgency, exemplifies that constricted view by confining airpower to a five-page annex in a nearly 300-page document."*[988]

Dunlap would further reason that Airpower was more than only enabling in COIN: *"The precision and persistence of today's airpower creates opportunities to dislocate the psychology of the insurgents. Insurgents' sheer inability to anticipate how high-technology airpower might put them at risk can inflict stress, thereby greatly diminishing their effectiveness."*[989] Here Dunlap again used terms and *termini* describing the Airpower discourse: *"precision"* would *"dislocate the psychology of the insurgents"* e.g. *paralyze* them. So *insurgents* now as well were measured by their *"effectiveness"* and Airpower had a psychological *"effect"* on them, as Colonel Robyn Read, a research analyst with CADRE's *Airpower Research Institute*, contended as well: *"Airpower can do far more than destroy a particular target – it can profoundly influence the human condition. Through selective engagement, airpower can support a recovering population; encourage one element while discouraging another; monitor, deter, transport, and connect; and assist in establishing the conditions for a safe and secure future."*[990] So Airpower could work on the *human terrain* as well. And Dunlap would second that notion: *"The psychological effect of air attack's infliction of helplessness may exceed the physical effects."*[991] The images taken looking through *Forward Looking Infrared* (FLIR) cameras and targeting systems of people getting blown apart by PGMs certainly made them look helpless, but not in the way the human dimension was thought by the Army and Marines in the realm of COIN. Looking at Fallujah, Iraq, Rebecca Grant would nonetheless cheer Airpower's *"precision"*: *"Air and space power working together can now engage targets with dial-up precision and immediate command*

[987] Dunlap, Making Revolutionary Change, p. 63.
[988] Berg, Paul D.: Airpower and Irregular Warfare, in: Air & Space Power Journal, Winter 2007, p. 21.
[989] Dunlap, Making Revolutionary Change, p. 58.
[990] Read, Robyn: Effects-Based Airpower for Small Wars – Iraq after Major Combat, in: Air & Space Power Journal - Spring 2005.
[991] Dunlap, Making Revolutionary Change, p. 65.

and control."[992] And Robert S. Dudney, Editor in Chief Air Force Magazine, argued similarly: *"Airpower has proven to be a – maybe even the – crucial US edge in the fight against insurgents and terrorists."*[993] USAF Major General Allen G. Peck even saw the global capabilities of the Air Force as *decisive* in COIN: *"For instance, airpower's ability to conduct precision strikes across the globe can play an important role in counterinsurgency operations."*[994] Peck hailed how strategic bombers were used for CAS: *"Innovation and adaptation are hallmarks of airpower. Cold War-era bombers, designed to carry nuclear weapons, can loiter for hours over the battlefield and deliver individual conventional weapons to within a few feet of specified coordinates."*[995] But there were also skeptical voices to find, here Mark Clodfelter, then a professor of military strategy at the *National War College*: *"Lethal airpower against insurgents works well only when they can be isolated from the 'sea' of population in which they prefer to 'swim.'"*[996] So the much-appreciated *"precision"* was again praised by Air Force proponents and its use promoted in COIN.

Some Airpower supporters went even further to argue that the airmen, or pilots flying above the *battlespace*, were especially suited for COIN operations. General Peck, continuing with his story of bombers doing CAS saw airmen as being adaptive: *"Fortunately, adaptability and an inherent capacity for thinking above the fray are ingrained in the genetic code of airmen."*[997] And Colonel Berg, as well attributed a special perspective to the airmen: *"Experts at operating in the air, space, and cyberspace domains (all of them vital to IW), Airmen have the necessary perspective for devising innovative ways to exploit them."*[998] Major Benjamin R. Maitre, a graduate student in the defense analysis department of the *Naval Postgraduate School*, even spoke about *airmanship*: *"The concept of 'airmanship' allows aviators to go beyond simply flying an aircraft to effectively employing it towards a desired objective."*[999] General Dunlap in that place put the *terminus airmindedness* to argue how the airman could more than just propagate Airpower: *"Airmindedness actually means more than that. It*

[992] Grant Rebecca: The Fallujah Model, in: Air Force Magazine, February 2005, p. 48-53, here p. 53.
[993] Dudney, Robert S.: On Fighting Irregular War, in: Air Force Magazine, October 2007, p. 2.
[994] Peck, Allen G.: Airpower's Crucial Role in Irregular Warfare, in: Air & Space Power Journal, Summer 2007, p. 10-15, here p. 11.
[995] Peck, Airpower's Crucial Role, p. 11.
[996] Clodfelter, Mark: Forty-Five Years of Frustration – America's Enduring Dilemma of Fighting Insurgents with Airpower, in: Air & Space Power Journal, Spring 2011, p. 78-88, here p. 86.
[997] Peck, Airpower's Crucial Role, p. 14.
[998] Berg, Paul D.: Airpower and Irregular Warfare, in: Air & Space Power Journal, Winter 2007, p. 21.
[999] Maitre, Benjamin R.: The Paradox of Irregular Airpower, in: Air & Space Power Journal, Winter 2007, p. 36-41, here p. 38.

includes, for example, an airman's predilection to especially value technology when seeking advantages over enemy forces. it reflects an airman's desire to avoid the carnage of ground force engagements wherever possible."[1000] Dunlap even saw airmen giving *decisive* inputs to *joint* doctrine: *"Taking advantage of the Airman's way of thinking will optimize joint COIN doctrine because, among other things, the Airman is less encumbered by the kind of frustrations the ground forces suffer in battling a vicious and intractable foe without the expected success."*[1001] Dunlap therefore saw airmen being less stressed by the COIN environment and therefore more adept at battling *insurgents*. The notions made above are striking: of all things the Air Force, which had dehumanized the enemy that far in scope of EBO, now claimed to be better able to battle *insurgents* on the modern battlefield, the *human terrain*.

But what about the Air Force COIN doctrine in that case? Major Kenneth Beebe, then serving as the deputy *information officer* at *II Marine Expeditionary Force* in Iraq, contended: *"Unfortunately, even as it appears that COIN will only become more common in the future, the Air Force has no workable doctrine for this emerging mission area."*[1002] Beebe even argued that *"The lack of COIN doctrine suggests that the Air Force deems it unimportant to include – a case of preparing to fight the wars we prefer and not preparing for the wars we are most likely to fight."*[1003] Colonel John D. Jogerst, a retired C-130/MC-130 navigator, who had commanded deployed theater special operations aviation components for Operation *Provide Comfort*, OEF, and OIF blamed the Air Force for neglecting *irregular warfare* as a whole: *"Contrary to doctrine and direction, the Air Force's actions make clear that it does not consider IW a priority. It's now fashionable in the Pentagon for airpower advocates to dismiss COIN as the 'last war' and call for an all-out push for modernization to prepare for war with a technologically sophisticated peer or near-peer enemy."*[1004] Paul Smyth, a Royal Air Force pilot who had flown more than 2,200 hours in the ground attack and reconnaissance role and taken part in the 1991 Gulf War and subsequent no-fly zone over Iraq, wrote similarly:

[1000] Dunlap Jr., Charles J.: Air-Minded Considerations for Joint Counterinsurgency Doctrine, in: Air & Space Power Journal, Winter 2007, p. 63-74, here p. 64.

[1001] Dunlap, Jr., Charles J.: Shortchanging the Joint Fight: An Airman's Assessment of FM 3-24 and the Case for Developing Truly Joint COIN Doctrine, Air University Monograph, Maxwell AFB, AL, 2008, p. 7.

[1002] Beebe, Kenneth: The Air Force's Missing Doctrine – How the US Air Force Ignores Counterinsurgency, in: Air & Space Power Journal, Spring 2006, p. 27-34, here p. 27.

[1003] Ibid. p. 28.

[1004] Jogerst, John D.: Preparing for Irregular Warfare – The Future Ain't What It Used to Be, in: Air & Space Power Journal, Winter 2009.

"In light of an aggregate of over 13 years of combat experience across two theatres, the scarcity of specific air doctrine on the employment of airpower in a COIN campaign is startling."[1005] As a close ally, the United Kingdom and its Armed Forces fought alongside their counterparts from the United States in OEF and OIF and took part in the discussions as well. The United States Air Force did consecutively get an *irregular warfare* doctrine document in 2007, containing the notion that *"Often, the effects desired in COIN will directly support ground operations (military and civilian) requiring proper integration and coordination."* But *"In other situations, Air Force capabilities may be used to achieve effects interdependently."*[1006] Again one can found the EBO language (*"effects"*) and the notion that Airpower could be *effective* on its own.

In the end, Airpower proponents would just repeat the idea of SOF supported by Airpower helping local, or indigenous, forces doing COIN by themselves. General Dunlap saw Landpower to be only marginally *effective* in COIN:

> *"To be sure, a COIN doctrine compatible with America's posture in the world, as well as its high-tech strengths, does not necessarily eliminate the need for 'boots-on-the-ground.' It does, however, emphasize that indigenous forces should comprise the bulk of the counterinsurgent force ratios outlined in FM 3-24. They can be supported by US Special Forces, along with specially trained Army advisers, but the 'face' of the COIN effort interfacing with the local population should be native, not American. This blend of local ground forces reinforced with US advisers and sophisticated American technology can work; recent reports, for example, 'showed the Iraqi Army to be considerably resilient when backed by Coalition airpower.'"*[1007]

Therefore, Dunlap argued (possibly quite rightly) that the so-called host-nation should fight COIN itself. Matthew Ford, a lecturer in war and security at the *University of Hull*, Patrick Rose, a senior analyst in the *UK Defense Science and Technology Laboratory* and Howard Body argued similarly in *Parameters*:

> *"Small-scale deployments of special forces backed by precision strike and deep attack capabilities used to support an allied indigenous armed group proved an effective*

[1005] Smyth, Paul: Airpower and Counterinsurgency – Building on a Proper Foundation, in: Air & Space Power Journal, Summer 2011, p. 115-125, here p. 124.
[1006] Headquarters, Department of the Air Force: Air Force Doctrine Document 2-3, Irregular Warfare, 1 August 2007, p. 10.
[1007] Dunlap Jr., Charles J.: Making Revolutionary Change: Airpower in COIN Today, in: Parameters, Summer 2008, p. 52-66, p. 64.

> *military tool for achieving specific strategic outcomes. In contrast, the results of large-scale troop deployments as part of counterinsurgency (COIN), stabilization and nation-building activities over the past ten years in Iraq and Afghanistan have been less definitive."*[1008]

These authors indeed saw large-scale Landpower to be more a problem than a solution to COIN. Retired Air Force command pilot Phillip S. Meilinger wrote as well:

> *"DOD's leaders should re-examine the paradigm that was so successful in Bosnia, Kosovo, Afghanistan, and Iraq. That was the use of air and space power, combined with SOF, indigenous ground forces, and overwhelming ISR. Given the outstanding results already demonstrated, an air-centric joint COIN model should be one of the first options for America's military and political leaders."*[1009]

But not only should Airpower help indigenous forces on the ground, it should also help build indigenous Air Forces, as Major William Brian Downs, a member of the *6th Special Operations Squadron*, *Air Force Special Operations Command*, argued: *"In some cases, rather than employ our own air assets, we should assist indigenous air forces so they can conduct operations against our mutual enemies. If a capable indigenous air force does not exist, the US Air Force should take the lead in developing one."*[1010] And retired Colonel Robyn Read as well supported the idea: *"We need to change the USAF's mind-set from fighting COIN to enabling a partner to fight COIN."*[1011] These ideas reach back into the 1980s as the United States was actively aiding other governments to battle *insurgencies* – as it had done as well in the Vietnam War with the *Military Assistance Command Vietnam* (MACV).

Effects-based Operations and Counterinsurgency

While there had obviously been people thinking about Airpower doctrine for COIN, many discussions went on about EBO in IW. Lieutenant General David A. Deptula, then Vice-Commander, *Pacific Air Forces*, wrote in early 2006: *"If we focus on effects (the end of strategy) rather than force-on-force (the traditional means of achieving it), we can consider more effective ways to accomplish the same goal more quickly than in the past – with fewer*

[1008] Body, Howard / Ford, Matthew / Rose, Patrick: COIN is Dead – Long Live Transformation, in: Parameters, Autumn 2012, p. 32-43, here p. 32.
[1009] Meilinger, Phillip S.: Counterinsurgency From Above, in: Air Force Magazine, July 2008, p. 36-39, here p. 39.
[1010] Downs, William Brian: Unconventional Airpower Air & Space Power Journal, Spring 2005.
[1011] Read, Robyn: Irregular Warfare and the US Air Force – The Way Ahead, in: Air & Space Power Journal, Winter 2007, p. 42-52, here p. 42.

resources and, most importantly, fewer casualties."[1012] While Deptula was essentially the founder of the EBO terminology, others as well spoke his language in the Airpower discourse. So USAF Major General Allen G. Peck, who described the many *"effects"* Airpower could muster for COIN: *"The fire hose of effects available from airpower operations can be focused where and when needed, according to the priorities established by the joint force commander."*[1013] And Lieutenant Colonel Collin T. Ireton wrote in the *Air & Space Power Journal*: *"The range, speed, and access inherent to airpower can make the multiple weapons effects associated with combined arms available to our troops over large or isolated geographic areas."*[1014] Range, *"speed"* and *access* seemingly belonged ever since and only to Airpower. Colonel Tomislav Z. Ruby, Chief of Doctrine for the *Deputy Chief of Staff for Intelligence, Surveillance, and Reconnaissance*, United States Air Force, promoted EBO as the overall recipe for COIN:

> *"Effects-based operations are the key to attaining end-states in the Global War on Terrorism and other future conflicts. All students of military history recognize there is no immediate panacea for winning a war. But EBO never promised silver bullets. The EBO concept proposes that specific actions will result in specific effects, both positive and negative. The results in Iraq have been proven over the past five years."*[1015]

Even if Ruby here admitted that EBO was no *"silver bullet"*, he saw the concept as having been proven in Iraq. Robert S. Dudney argued that EBO had saved many lives of American soldiers and marines in Iraq, at least in the initial invasion: *"The effects-based approach, airmen maintain, dovetails with the American way of war – reducing risk to our forces while maximizing the risk to the enemy's. In the Gulf, they say, the decimation of Iraq's forces from the air likely saved the lives of thousands of soldiers and marines."*[1016] But others criticized that notion. Charles Tustin Kamps had written earlier: *"Ironically, even though the Air Force has fully embraced the modern interpretation of EBO, after-action reports from Operation Iraqi Freedom indicate that, for the most part, the service measured 'success' by traditional attrition methods because of the high tempo of operations and the resultant inability of*

[1012] Deptula, David A.: Effects-Based Operations, in: Air & Space Power Journal, Spring 2006, p. 4-5, here p. 5.
[1013] Peck, Airpower's Crucial, p. 12.
[1014] Ireton, Collin T.: Shifting the Air Force's Support Ideology to Exploit Combined Arms in the Close Fight, in: Air & Space Power Journal, Winter 2008, p. 85-94, here p. 88.
[1015] Ruby, Tomiszlav Z.: Effects-based Operations: More Important Than Ever, in: Parameters, Autumn 2008, p. 26-35, here p. 31.
[1016] Dudney, Robert S.: Improvisation Won't Do It, in: Air Force Magazine, October 2008, p. 2.

headquarters to gauge or assess effects."[1017] And with respect to the difficulties targeting a networked *insurgency*, David B. Lazarus, a master's degree student at the *Strategic and Defence Studies Centre*, *Australian National University*, contended in the Air & Space Power Journal in 2005: *"From an EBO perspective, the challenges of targeting not a national leader but a globally dispersed network that is religiously and ideologically driven are profound. Al-Qaeda truly represents the next generation of networkcentric adversaries, leveraging its own asymmetric advantage in employing its own objective-driven EBO."*[1018] But EBO as well would help that no resources were wasted, as Colonels Steven D. Carey and Robyn S. Read suggested in Spring 2006: *"EBO provides for synchronization of multiple actions to achieve a desired effect, and it encourages constraint in the application of power that could be wasteful or counterproductive."*[1019] Carey and Read therewith argued absolutely in line with what EBO founder Deptula had argued five years before. Then Jim Pasquarette would argue in a 2008 War College Study*: "Insurgency, counterinsurgency, and other forms of limited war are inherently complex – and lend themselves to a systems based analytical approach. Embracing effects based operations is a logical step."*[1020] In Contrast to Pasquarette, who obviously saw the applicability of EBO in COIN, retired Brigadier General Huba Wass de Czege, one of the principal developers of the Army's *AirLand Battle* concept and the founder and first director of the *School of Advanced Military Studies* (SAMS), disagreed: *"Human constructs are inherently fluid. Assigning mechanistic predictability to them in doctrine amounts to erecting false assumptions as dogma."*[1021] Robyn Read as well had argued earlier that *"EBO is most certainly not a checklist. Rather, it is a flexible and loosely adaptable process of affecting linkages within a system to achieve a predictable new behavior or condition."*[1022] So EBO proponents themselves had to admit, that it was not that easy to just hit *centers of gravity* in a COIN environment. In the end, Marine General James N. Mattis as Commander, *United States Joint Forces Command* in 2008, banned EBO from doctrine documents, arguing that *"Precision fires alone proved to be ineffective during Operation*

[1017] Kamps, Charles Tustin: Effects-Based Operations, in: Air & Space Power Journal, Summer 2004, p. 18.
[1018] Lazarus, David B.: Effects-Based Operations and Counterterrorism, in: Air & Space Power Journal, Fall 2005.
[1019] Carey, Steven D. / Read, Robyn S.: Five Propositions Regarding Effects-Based Operations, in: Air & Space Power Journal, Spring 2006, p. 63-74, here p. 72.
[1020] Pasquarette, Jim: Effects Based Operations in Iraq – A case for Army acceptance, United States Army War College, Carlisle, PA, 2008, p. 23.
[1021] Wass de Czege, Huba: Systemic Operational Design: Learning and Adapting in Complex Missions, in: Military Review, January-February 2009, p. 2-12, here p. 3.
[1022] Read, Effects-Based Airpower for Small Wars.

Desert Storm in 1991, Kosovo operations in 1999, and more recently during the 'shock and awe' phase of Operation Iraqi Freedom. The inconclusive results of these operations underscore the fact that effects-based operations tend to be ineffective when used exclusive of ground maneuver operations."[1023] However, the concept remained in use by the services. Gray writes in his monograph *Another bloody century: future warfare* how the United States and as well the British Armed Forces were excited about what EBO suggested. But once the jargon and buzzwords are dismantled, the highly advanced sounding concept amounts to the praiseworthy intention to use military power with a view to achieve certain specifically desirable *"effects"*. So no matter how one explains it, the concept, stripped of its modern wording, is monumentally obvious. Gray sees EBO as carrying, beyond its unmistakable banality, a dangerous illusion. EBO encourages the notably *"un-Clausewitzian*" belief that the conduct of war can be precisely orchestrated, with the *"effects"* of particular enemies reliably predictable.[1024]

Airpower versus Landpower

Airpower advocates did not only struggle with applying their ideas to COIN, they also feared to be marginalized in OIF and OEF, as more and more ground forces, Landpower, poured into Afghanistan and Iraq to implement the COIN idea. Thomas R. Searle criticized the Air Force for not being proactive enough:

> *"Airpower remains the single greatest asymmetrical advantage the United States has over its foes. However, by focusing on the demands of major combat and ignoring counterguerrilla warfare, we Airmen have marginalized ourselves in the global war on terrorism. To make airpower truly effective against guerrillas in that war, we cannot wait for the joint force commander or the ground component commander to tell us what to do. Rather, we must aggressively develop and employ airpower's counterguerrilla capabilities."*[1025]

The wording which Searle used (*Counterguerilla*) does not correspond with the *termini* used by the official Air Force document's regarding *irregular warfare*, where COIN is included.[1026] But again the *"effectiveness"* was put into the foreground by Searle. Other authors even

[1023] Mattis, James N.: USJFCOM Commander's Guidance for Effects-based Operations, in: Parameters, Autumn 2008, p. 18-25, here p. 21.
[1024] Gray, Another bloody century, p. 226f.
[1025] Searle, Making Airpower Effective, p. 22-23.
[1026] Cf. AFDD 2-3, Irregular Warfare, 1 August 2007, p. 3.

suggested that the Army and Marine Corps wanted to focus too much unto the ground aspect, so Robert S. Dudney, in the *Air Force Magazine*: *"The Army and Marine Corps concept of irregular war ascribes far more value to, well, themselves. That is, to say no more, a debatable proposition."*[1027] General Dunlap would then even suggest that the abovementioned services would try to get more budget for themselves, using COIN doctrine*: "What is, however, a concern is that FM 3-24 is being used (albeit not by its drafters) as a rationale to inflate the size of the Army and Marine Corps, a development that threatens to drain resources and energy away from airpower and other high-tech defense capabilities."*[1028] And Dunlap further argued that soldiers and marines would be afraid of the technology the Air Force wielded: *"Soldiers seem to be predisposed […] to be uncomfortable with any technology that might diminish or even displace the large ground formations so vital to their tradition-driven self-conceptualization. This kind of adherence to 'tradition' is in stark contrast to an Airman's way of thinking."*[1029] Dunlap therewith accused the Armay and Marines of being oriented backwards, at least technology-wise. Phillip S. Meilinger then reasoned: *"If the US military could break the lock that the boots on the ground and the 'occupation of territory' mind-sets have on strategy and switch to a more air-centric joint strategy, the end result could very well be more success – at a lower cost in both casualties and dollars."*[1030] Now not only in *conventional* wars, even in COIN or *stabilization operations* there were too many soldiers and marines on the ground. And a more *"air-centric joint strategy"* obviously meant for sure that the Air Force had to get a bigger share of the budget, to finally destroy the enemy in an old-fashioned way, *"with a lower cost in dollars"* overall, yielding more *"effectiveness*". General Dunlap even contended that *"FM 3-24 gives too little consideration to the possibility that hearts and minds might sometimes be more efficiently and effectively 'won' without putting thousands of foreign counterinsurgents in direct contact with the host-nation population."*[1031] Robert S. Dudney similarly argued: *"Introduction of a large US ground force is a highly visible act, often breeding political resentment, especially in Muslim lands. US troops quickly become targets for attack by insurgent bullets, bombs, and broadcasts. This amounts to a grave weakness for a force*

[1027] Dudney, Robert S.: On Fighting Irregular War, in: Air Force Magazine, October 2007, p. 2.
[1028] Dunlap, Jr., Charles J.: Shortchanging the Joint Fight: An Airman's Assessment of FM 3-24 and the Case for Developing Truly Joint COIN Doctrine, Air University Monograph, Maxwell AFB, AL, 2008, p. 65.
[1029] Dunlap, Shortchanging the Joint Fight, p. 11.
[1030] Meilinger, Phillip S.: Counterinsurgency From Above, in: Air Force Magazine, July 2008, p. 36-39, here p. 36.
[1031] Dunlap, Shortchanging the Joint Fight, p. 11.

engaged in irregular warfare, in which support of 'the people' is of paramount importance."[1032] And finally Dunlap again reasoned how the airmen perspective would cost less lives thanks to its discipline: *"Airpower offers casualty-minimizing advantages over landpower beyond precision weapons and other technologies. The air weapon is largely under the control of highly-disciplined, officer-pilots operating in relative safety above the fray. Decisions as to the application of force can be made without the chaos and enormous pressure a young COIN trooper faces under direct attack."*[1033] Airmen were therefore even more disciplined, more senior than soldiers or marines, who certainly were mostly younger men than pilots were.

The future war, with or without irregular enemies

But Dunlap and other Air Force personnel not only questioned Landpower's role in COIN; they also increasingly reasoned about the spectrum of conflict and COINs place in there:

> *"Terrorists can wreak savage injury – especially using weapons of mass destruction (WMD) – but only a peer competitor with a sizeable WMD capability can imperil America's survival. This should give pause to those who ridicule so-called legacy systems such as attack and ballistic missile submarines, nuclear-capable bombers and missiles, and show-stopping weapons like the F-22A. As important as defeating terrorism and other low-intensity forms of warfare might be, considerations of the larger context must guide decision-making."*[1034]

Dunlap here wrote about the larger context, meaning *conventional* warfare. Robert S. Dudney similarly suggested to think about the whole *Full Spectrum*, not only COIN: *"The bedrock of current US military doctrine is 'full spectrum dominance' – the ability to defeat the enemy at any point on the ladder of escalation. It hinges on the ability to control the skies, swiftly defeat an invading enemy, and rapidly take the fight to the adversary. It requires, in a word, airpower."*[1035] Airpower should lay its focus again more on gaining superiority over a conventional enemy. Rebecca Grant wrote about losing air dominance:

> *"Moreover, the Air Force must contend with Pentagon efforts to downgrade air dominance in favor of increasing US emphasis on ground-centric irregular warfare. The Air Force's core fighter force has gotten old. In the wake of the Gulf War, the Air Force*

[1032] Dudney, On Fighting Irregular War, p. 2.
[1033] Dunlap, Shortchanging the Joint Fight, p. 27.
[1034] Dunlap, Neo-Strategicon, p. 47.
[1035] Dudney, Robert S.: A Force For the Long Run, in: Air Force Magazine, December 2006, p. 2.

hatched a plan to acquire thereafter only highly advanced stealth fighters. That plan now has gone badly awry. USAF confronts the real danger of having insufficient numbers of advanced fighters for future needs."[1036]

And Lieutenant Colonel Rob Levinson, Chief, Strategic Plans, office of the *Secretary of the Air Force*, *Public Affairs, Security and review division*, argued further: *"The current fight may belong to the Army and the Marine corps, but the future may belong to the US Air Force. When the nation needs overt military force, perhaps airpower will become the weapon of first – and last – resort."*[1037] And Dunlap pointed to the PRC as a possible adversary who did exactly what the Air Force wanted, namely shrinking Landpower in favor of Airpower: *"As it stands now, the United States is planning to increase its low-tech ground forces at the same time China, the twenty-first century's emerging superpower, is increasing its defense budget but shrinking its ground forces in favor of high-tech weaponry, and especially advanced airpower."*[1038] Dunlap hereby already showed a first glimpse of the next discussion looming on the horizon in the discourse on the possible future enemy and *"modern war"*.

John A. Tirpak, Executive Editor of the Air Force Magazine even used the *"asymmetry"* argument to show how the United States had to invest heavily in modern aircraft and other Airpower technology: *"Adversaries around the globe are aggressively pursuing new technologies to erase America's asymmetric advantage in airpower, and their aircraft aren't battle-worn."*[1039] Tirpak hereby as well argued how the COIN operations brought wear unto the Air Forces aircraft, unnecessarily perhaps in his eyes. But other authors still saw the necessity to be able to wage low-tech wars, so Major Ronald F. Stuewe Jr.: *"The danger to the Air Force of the future lies in the fact that developing a technology-centered force designed to fight large, interstate conflicts, by definition, creates a suboptimal force for waging small wars."*[1040] And Colonel Willi, chief of the *Personnel Recovery Core Function Team*, Headquarters ACC, warned of the habit to leave small wars to history*: "Although the*

[1036] Grant, Rebecca: Losing Air Dominance, in: Air Force Magazine, December 2008, p. 24-29, here p. 24.
[1037] Levinson, Rob: What Do We Do Next Time? Fighting America's Wars after Iraq, in: Air & Space Power Journal, Winter 2007, p. 28-30, here p. 30.
[1038] Dunlap, Shortchanging the Joint Fight, p. 65f.
[1039] Tirpak, John A.: The Redefinition of AIRPOWER, in: Air Force Magazine, April 2008, p. 28-34, here p. 32.
[1040] Stuewe Jr., Ronald F.: One Step Back, Two Steps Forward – An Analytical Framework for Airpower in Small Wars, in: Air & Space Power Journal, Spring 2006, p. 89-96, here p. 90.

US Air Force must use its finite financial resources primarily against a high-end, near-peer opponent, it should not consign IW to the history books."[1041]

Nonetheless, different voices suggested taking a look at the *peer* or *near-peer* enemies, as they called now their perfected conventional enemy. John A. Tirpak wrote in 2008*: "New adversary defenses have greatly expanded range, putting US fighters in danger far away from the target, and putting some targets flat out of reach."*[1042] The *anti-access* idea, as mentioned before, featured again in military thought. Though, clearly it would not be an *insurgent* in downtown Baghdad that would make *access* difficult. Brigadier General Robin P. Swan, Director, *Concept Development and Experimentation Directorate, Army Capabilities Integration Center* at TRADOC and Lieutenant Colonel Scott R. McMichael, director and regional manager for *System Studies & Simulation, Inc.*, thought again loudly about deploying Army forces globally and warned*: "The United States can no longer take for granted that it will have the political access to theater staging bases, ports, or overflight rights that it has enjoyed in the past. Adversaries will, in fact, take overt action to limit U.S. regional access through a variety of means, including diplomatic action, threats, and coercion."*[1043] Lieutenant General Peter W. Chiarelli, senior military assistant to the secretary of defense wrote together with Major Stephen M. Smith, military assistant in the Office of the Secretary of Defense: *"Additionally, while we attempt to improve our capabilities in nonlinear warfare, we must maintain our ability to defeat conventional military threats and deter the emergence of near-peer competitors. The challenge is to find the right balance without trying to attain competence in so many potential missions that we can't do any of them well."*[1044] General Chiarelli and Major Smith therefore suggested to not confine the thoughts only on COIN or *irregular warfare*. These statements came in a timeframe where COIN obviously dominated the discourse on warfare, being named as *"nonlinear warfare"* by Chiarelli and Smith. And finally Lieutenant Colonel Thomas McCabe, retired, a civilian analyst for the *Department of Defense,* saw the United States not having the initiative in a future conflict environment: *"The enemy will have the initiative, and we will be reacting. Militarily, this means that we cannot expect to mass overwhelming power, as in Desert Shield, and that*

[1041] Willi, Bernie: The Importance of Airpower in Supporting Irregular Warfare in Afghanistan, in: Air & Space Power Journal, July-August 2012, p. 103-117, here p. 105.
[1042] Tirpak, The Redefinition of AIRPOWER, p. 32.
[1043] McMichael, Scott R. / Swan, Robin P.: Mounted Vertical Maneuver: A Giant Leap Forward in Maneuver and Sustainment, in: Military Review, January-February 2007, p. 52-62, here p. 54.
[1044] Chiarelli, Peter W. / Smith, Stephen M.: Learning from Our Modern Wars: The Imperatives of Preparing for a Dangerous Future, in: Military Review, September-October 2007, p. 2-15, here p. 4.

we must expect to fight a war with little or no preparation. We must assume that the enemy will contest everything we try to do and that we may need to fight our way in."[1045] While the enemy had been only partially analyzed in the late 1990s and early 2000s, now a new type of enemy was being imagined. At the same time, Serena argues in his monograph how many military thinkers saw the current, post-Cold War conflicts as aberrations that distracted the military from planning for the next real war.[1046] But Gray warned that even as there would of course be *regular* enemies in the future, they could be obliged by the United States Armed Force's strengths to fight in *irregular* ways. Gray suggests refraining from drawing a misleadingly neat distinction between *regular* and *irregular* enemies and modes of struggle, which the United States Armed Forces like to do perpetually.[1047] In Gray's suggestions already a glimpse of the *hybrid* threat is visible which will get to the center stage in the next chapter. In his 2006 monograph Gray writes that future warfare must be assumed to encompass both *regular* and *irregular* combat.[1048] It would be dominated by combat between professional militaries equipped with weapons that can kill or disable with *"precision"* at a distance. In his eyes the demise of mass in favor of quality, is today the common understanding of the future of *regular warfare* in the technically more advanced countries. Therefore, armed forces would be smaller and equipped more lightly in the near future so as to be more agile in deployment.[1049] Gray hereby not entirely, but at least partially gets back to the idea of the FCS and *Transformation* as well. But he is as well *prisoner* of the United States Armed Forces discourse on war, warfare and the enemy as he does discern *regular* and *irregular* from each other, categorizing enemies, or trying to.

During the height of COIN operations in Iraq and later in Afghanistan, the United States relied heavily on *"masses"* of Landpower to reach a certain amount of security and therefore as well stability. The United States Army, Marine Corps, and coalition forces, reversed the situation in Iraq under the leadership of General David Petraeus. They turned what many Americans believed was another Vietnam-style debacle into a fragile, but lasting and stable peace, as Lewis describes. At least, until the *Islamic State of Iraq and the Levant* (ISIL) emerged and occupied large parts of Iraq during 2014. Petraeus was able to change the way

[1045] McCabe, Thomas: In the Shadow of Georgia – Airpower in the Next War, Air & Space Power Journal, Winter 2009.
[1046] Serena, A Revolution in Military Adaptation, p. 136.
[1047] Gray, Irregular enemies, p. 54.
[1048] Gray, Another bloody century, p. 191.
[1049] Ibid. p. 202.

the Army (and Marines) operated. He instructed soldiers to dismount, close with, and engage the people, not with weapons at the ready, but with the intent to gain *"information"* and secure civilians from *insurgent* threats.[1050] But Porch argues that the renaissance of COIN doctrine filled a strategic vacuum in Baghdad with at best a system of grand tactics and no grand strategy. Porch describes further how COIN doctrine somehow *"papered over the civil-military crisis of leadership in Washington with empty promises to buy time so that Iraqis could reconcile their political and religious divisions."*[1051] In the end, Porch would be right.

On the more positive side, the United States Army's cyclical adaptation, going on parallel with its fight against an adaptive *insurgency*, in process made it perhaps more *Full Spectrum* capable than it had ever been, as Serena contends.[1052] But he as well sees an affinity for applying familiar yet inappropriate terms to new concepts and *operational environments*. The depiction of cars, trucks, and motorcycles as *insurgent* platforms or the description of populations as *human terrain* are examples of the persistence of traditional *conventional* war thinking. According to Serena, these things occur because doctrine and weapons systems are slow to adapt to new circumstances. The application of old terms to new conditions is, in Serena's eyes, emblematic of an institutional unwillingness or incapability to adapt to *operational environments* and warfare which do not fit into present doctrine.[1053] For the majority of the Army's history, challenges to traditional war-fighting competencies such as MOOTW were seen as challenges to the organization's raison d'être, and not as opportunities to learn and adapt but as *irregularities* to be dismissed or ignored.[1054] In that sense, warfare with against *peer* or *near-peer* enemies is that much more convenient. To fight a *peer* would only require slight and incremental adaptations to the traditional, *legacy* force. But what is overlooked in this scenario is that, if the United States' adversaries are deterred at the upper end of the spectrum of conflict by high-end strategic air, naval, and missile forces, a competent adversary would deny the United States its strategic goals through strategies and tactics that employ capabilities stressing the lower end of the spectrum of conflict.[1055] While EBO parlance with the *center of gravity* got as well into Army

[1050] Lewis, The American Culture of War, p. 475.
[1051] Porch, Counterinsurgency, p. 301.
[1052] Serena, A Revolution in Military Adaptation, p. 4.
[1053] Ibid. p. 93.
[1054] Ibid. p. 11.
[1055] Ibid. p. 146f.

speech and was partially even promoted by Petraeus' FM *3-24* and its LLOs, Airpower seemed to struggle with its role in COIN. *"Stability operations"* did not warrant overwhelming *"speed"*, but rather persistence; and as well not *stealth*, which would not be mentioned again after the initial successes over Afghanistan. The population-centric approach which favored Landpower was nonetheless criticized by Airpower proponents, who argued that *airmindedness*, and not the soldier's view, would be the solution for insurgencies.

3.3 The *Field Manual 3-0 Operations* 2008 and the emergence of the *hybrid* threat

While discussions concerning COIN and the validity of the spectrum of conflict were going on, the Army had already drafted a new edition of FM *3-0* which then was published in February 2008. This chapter will cover discussions on the new FM and how the Army coped with the reality that regular and irregular enemies would not be that easily separable as done until recently in its doctrine.

The FM 3-0 2008 edition

The new version of FM *3-0* consequently included many of the lessons from the past few years in Iraq and Afghanistan, incorporating IW as well as COIN. In the preface, TRADOC commander William S. Wallace wrote about the era of *"persistent conflict"* in which the Army was standing at that time. Wallace described in an accompanying article in *Military Review* the approach *Unified Action* which had been already the cover name in the 2001 edition: *"The current edition of FM 3-0 reflects Army thinking in a complex era of persistent conflict. The doctrine recognizes that military force alone will not resolve this type of conflict. Dominant landpower, while vital to operations, represents only one element of a broader campaign that requires the application of each element of national power."*[1056] Landpower as a counterweight to Airpower was therefore promoted offensively, described as being the paramount instrument for the *Full Spectrum*. The *Manual*, or its authors, described the main approach as follows: *"Unified action is the synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities with military operations to achieve unity of effort (JP 1). It involves the application of all instruments of national power,*

[1056] Wallace, William S.: FM 3-0 Operations – The Army's Blueprint, in: Military Review, March-April 2008, p. 2-7, here p. 3.

including actions of other government agencies and multinational military and nonmilitary organizations."[1057] *Unified Action* somehow mirrored how the Army leadership indeed realized that *stabilization* and *reconstruction*, as it took place in Iraq and Afghanistan at that time, comprised more than only combat: *"The nature of land operations has expanded from a nearly exclusive focus on lethal combat with other armies to a complicated mixture of lethal and nonlethal actions directed at enemies, adversaries, and the local population, itself often a complicated mix."*[1058] But the measurement was still the *"lethal"* aspect of warfare, even when divided into *"lethal"* and *"non-lethal actions"*. What did not really change from the wording comprised in the 2001 edition of the FM *3-0* was how the Army saw its role in the *Unified Action*:

> *"Modern conflict occurs in many domains; however, landpower normally solidifies the outcome, even when it is not the decisive instrument. Landpower is the ability – by threat, force, or occupation – to gain, sustain, and exploit control over land, resources, and people. Landpower includes the ability to – impose the Nation's will on an enemy, by force if necessary."*[1059]

While the authors drew on the traditional terms such as the enemy's *"will"*, they as well once more emphasized that only Landpower could ascertain the outcome – occupying land and convincing people to accept the United States' superiority. Therefore, only the Army could *"impose the Nation's will on an enemy"*. And what Airpower proponents had accused the Army (and Marine Corps) of, was indeed emerging from the new *Manual*: *"Only on land do combatants come face-to-face with one another. Thus, the capability to prevail in close combat is indispensable and unique to land operations. […] Close combat is required when other means fail to drive enemy forces from their positions. In that case, Army forces close with them and destroy or capture them."*[1060] While Airpower supporters had criticized the soldier's role and perspective in COIN, the Army even pointed out that only soldiers on the ground in close combat could convince an enemy to give in. Another constant from the 2001 *Manual* was *Full Spectrum Operations*: *"The Army's operational concept is full spectrum operations: Army forces combine offensive, defensive, and stability or civil support operations simultaneously as part of an interdependent joint force to seize, retain, and exploit the*

[1057] Headquarters, Department of the Army: Field Manual 3-0, Operations, Washington, DC, 2008, p. 1-10.
[1058] FM 3-0, Operations, 2008, p. 1-18.
[1059] Ibid. p. 1-15.
[1060] Ibid. p. 1-17.

initiative, accepting prudent risk to create opportunities to achieve decisive results."[1061] But while IW did not once occur in 2001, now finally the term had gotten into official language: *"Irregular warfare is a violent struggle among state and nonstate actors for legitimacy and influence over a population. This broad form of conflict has insurgency, counterinsurgency, and unconventional warfare as the principal activities."*[1062] Therefore the authors stressed that *"the operational concept addresses more than combat between armed opponents. Army forces conduct operations in the midst of populations. This requires Army forces to defeat the enemy and simultaneously shape civil conditions."*[1063] Indeed, what had been criticized by articles in military publications for years did finally happen; the Army somehow managed to get away from the perfected RMA type image of war it had constructed together with the Air Force in the 1990s. The war reality after *Shock and Awe* sank in. *"In particular, Army operations emphasize the importance of peoples' perceptions, beliefs, and behavior to the success or failure of full spectrum operations and in the persistent conflicts the Nation continues to face."*[1064] People were important, being the *human* terrain. Similarly, the *Manual* stressed how the opposite side in the conflicts the United States would fight could differ from the traditional *Way of War* as described in earlier *Manuals*: *"Threats are nation-states, organizations, people, groups, conditions, or natural phenomena able to damage or destroy life, vital resources, or institutions. […] Threats may be described through a range of four major categories or challenges: traditional, irregular, catastrophic, and disruptive."*[1065] Even as the authors indeed saw these new forms of threats or enemies, they still tended to categorize them in a military way. But a glimpse of the coming *hybrid* problem was shimmering through: *"By combining traditional, disruptive, catastrophic, and irregular capabilities, adversaries will seek to create advantageous conditions by quickly changing the nature of the conflict and moving to employ capabilities for which the United States is least prepared."*[1066]

The Warfighting Functions described different terms necessary for warfare, which earlier were called *Elements for Combat Power* in the 2001 edition of FM *3-0*: *"The movement and maneuver warfighting function is the related tasks and systems that move forces to achieve*

[1061] FM 3-0, Operations, 2008, p. 3-1.
[1062] Ibid. p. 2-10.
[1063] Ibid. p. 3-2.
[1064] Ibid. p. 7-2.
[1065] Ibid. p. 1-4 - 1-5.
[1066] Ibid.

a position of advantage in relation to the enemy. Direct fire is inherent in maneuver, as is close combat."[1067] While movement was still understood in a geographical way, *"firepower"* got its place as well: *"Fires normally contribute to the overall effect of maneuver but commanders may use them separately for the decisive operation and shaping operations."*[1068] Interestingly, the *Manual* as well described the *center of gravity* in a new fashion, moving away from an only EBO approach, or relativizing it:

> *"Centers of gravity are now part of a more complex perspective of the operational environment. Today they are not limited to military forces and can be either physical or moral. Physical centers of gravity, such as a capital city or military force, are typically easier to identify, assess, and target. They can often be influenced solely by military means. In contrast, moral centers of gravity are intangible and complex."*[1069]

COG could now even be *"moral"*; it seems that again the Army was trying to merge its military language and its image of war with a reality and problem that would not be easy to grasp. But some of the EBO parlance could still be found, here in respect to *"simultaneity"* and *"depth"*: *"Simultaneity and depth extend operations in time and space. […] Operations combining depth and simultaneity achieve a synergy that paralyzes enemy forces. This prevents them from reacting appropriately, inducing their early culmination."*[1070] *"Depth"* was not only understood in a geographical manner but in time as well. And the talk about *paralyzing* the enemy still strongly resembled Deptula's wording in regard to EBO. But neither the description of *"simultaneity"* nor the one of *"depth"* differed substantively from the one found in the 2001 FM: *"Depth is the extension of operations in time, space, and resources. Operations in depth can disrupt the enemy's decision cycle. These operations contribute to protecting the force by destroying enemy capabilities before the enemy can use them."*[1071] Reading through the *Manual*, the reader certainly could find even more terms, text passages and statements which resembled those in older versions. And in the end, the *anti-access* idea taken from the 2001 QDR as well was spelled out again:

> *"The enemy will seek to interdict U.S. forces attempting to enter any area of crisis. If U.S. forces successfully gain entry, the enemy will seek engagement in complex terrain and urban environments as a way of offsetting U.S. advantages. Methods used by*

[1067] FM 3-0, Operations, 2008, p. 4-3.
[1068] Ibid. p. 4-4.
[1069] Ibid. p. 6-8.
[1070] Ibid. p. 6-16.
[1071] Ibid. p. 6-17.

adversaries include dispersing their forces into small mobile combat teams – combined only when required to strike a common objective – and becoming invisible by blending in with the local population."[1072]

Hereby the Army leadership still got more *conventional* threats (e.g. the PRC or Iran) in its spectrum of conflict. David Fitzgerald then rightly argues that the key development in the new edition of FM 3-0 was no more than the elevation of *stability operations* as coequal with more *conventional* types of conflict.[1073] Walter Kretchik describes how the 2008 *Manual* embellished the concept of *Full Spectrum Operations* form the 2001 version and was therefore more evolutionary than both evolutionary and revolutionary as it had been announced as. But the *Manual* placed more emphasis on *stability operations* and COIN, therefore it was deemed to be revolutionary from the service's perspective, however.[1074] Kretchik notes further, that in the 2008 edition campaigns were differently defined, moving beyond more traditional *joint* service combat operations to include the reestablishment of civil authority after combat operations end, even when combat was not required. This change reflected, in Kretchik's eyes, the thinking found in FM *3-24* and indicated how much influence that *Manual* or its authors had.[1075] Linn finally argues how the 2008 FM *3-0* repudiated many of the central ideas of its 1993 predecessor – the resulting transformation in the Army's vision of war went far beyond the *counterinsurgency Manual* in his eyes.[1076]

The new *Manual* was then positively commented on by Major Glenn A. Henke, a student in the *Advanced Military Studies Program* at the *United States Army School of Advanced Military Studies*: *"The Army's concept of full spectrum operations as outlined in the latest version of FM 3-0 is partially intended to advance army doctrine beyond thinking primarily in terms of force-on-force engagements, so we must ensure that our planning paradigms are truly in line with full spectrum operations."*[1077] And Major Paul S. Oh, an assistant professor in the *Social Sciences Department* at the *United States Military Academy*, went further on to describe the future operating environment: *"To respond to this future strategic environment, the United States will most likely be involved in three types of missions: expeditionary warfare to manage violence and peace, defense of the command of the commons, and*

[1072] FM 3-0, Operations, 2008, p. 1-4 - 1-5.
[1073] Fitzgerald, Learning to forget, p. 182.
[1074] Kretchik, U.S. Army Doctrine, p. 270.
[1075] Ibid. p. 272.
[1076] Linn, The U.S. Armed Forces' View of War, p. 51.
[1077] Henke, Glenn A.: Planning Full Spectrum Operations – Implications of FM 3-0 on Planning Doctrine, in: Military Review, November-December 2008, p. 97-101, here p. 97.

homeland defense. The land forces will spearhead expeditionary missions to 'contested zones' to protect American interests abroad."[1078] But with Jim Pasquarette, a more critical voice expressed concerns and accused the Army of still adhering to the *conventional* image of war: *"Although FM 3-0 outlines the spectrum of conflict – to include insurgency – a majority of the operational concepts apply to general war on the graduated scale due to the Army's cultural bias toward high intensity conflict."*[1079] When one accounts for all the terms and statements which were taken over from the 2001 edition, Pasquarette's accusations seem to be reasonable.

The operating environment

Two different TRADOC pamphlets then in 2009 and 2010, respectively, described the operating environment (e.g. the battlefield renamed [!]) as complex and uncertain, here the *Capstone Concept*: *"In simple terms, the future operational environment will exhibit uncertainty and complexity."*[1080] And *the Operating Concept* similarly pointed out: *"The future operational environment will be complex and uncertain, marked by rapid change and a wide range of threats. Threats to the Nation will originate among diverse populations where the advantages of dispersion, concealment, and terrain provide the best chance for success."*[1081] The pamphlets in their wording followed similar statements from TRADOC head General Wallace: *"The operational environment is characterized by uncertainty, chaos, and friction."*[1082] The clausewitzian friction hereby was indeed joined by the chaos as imagined in scope of the *AirLand Battle*. And Wallace as well warned how *"this conflict will be waged in an environment that is complex, multi-dimensional, and firmly rooted in the human dimension."*[1083] The human dimension had indeed been established in Army thinking again through COIN, as an opposite to the EBO thinking from the late 1990s and early 2000s. The 2009 *Capstone Concept*, which had the purpose to describe the capabilities the Army would need in the future, even criticized the RMA approach which had been taken in this period of time: *"RMA advocates, however, neglected many of the continuities of armed conflict and*

[1078] Oh, Paul S.: Future Strategic Environment in an Era of Persistent Conflict, in: Military Review, July-August 2009, p. 68 -79, here p. 69.
[1079] Pasquarette, Effects Based Operations in Iraq, p. 1.
[1080] Headquarters, United States Army Training & Doctrine Command: The Army Capstone Concept, 2016-2028, TRADOC Pamphlet 525-3-0, 21 December 2009, p. 9f.
[1081] Headquarters, United States Army Training & Doctrine Command: The United States Army Operating Concept, 2016-2028, TRADOC Pamphlet 525-3-1, 19 August 2010, p. 8.
[1082] Wallace, FM 3-0 Operations, p. 4.
[1083] Ibid.

did not recognize the limitations of new technologies and emerging military capabilities. In particular, concepts that relied mainly on the ability to target enemy forces with long range precision munitions separated war from its political, cultural, and psychological contexts."[1084] The pamphlet's authors hereby could not relinquish a directly aimed potshot against their Air Force colleagues. The *Concept* as well described how technology had proposed *decisive* victories which then did not take place:

> *"Recent and ongoing conflicts have highlighted possibilities as well as limitations associated with new and emerging technologies. While surveillance, information, and precision strike technologies have improved the joint force's ability to see its own forces, identify visible enemy, share information, and apply joint combat power, it is clear that these capabilities cannot deliver rapid or decisive victories when confronting determined, adaptive enemies in complex environments."*[1085]

But not only would enemies be adaptive, they would also know how to impede the United States' capabilities: *"Threat capabilities will also improve. For example, enemy forces will use complex and urban terrain to avoid U.S. and allied surveillance capabilities while emerging technologies will permit enemy forces to reduce equipment signatures. Future adversaries will use commercial off-the-shelf capabilities (to include information technology) to construct a well-organized, dispersed force capable of complex operations."*[1086] Krepinevich had already warned in the early 1990s that the United States themselves would, thanks to its technological advances, yield enemies like the *Streetfighter State*. Scott Stephenson concluded in a 2010 edition of *Military Review*, how the United States had now seen the limits of the RMA*: "Now, 19 years after Desert Storm, we have been offered a dose of humility that might moderate our faith in technology."*[1087] Major Irvin Oliver, an instructor of international relations at the *United States Military Academy* similarly argued how the technological edge was limited through its diffusion and therefore, through *off-the-shelf* products, available to everyone: *"Technology continues to advance and evolve at ever-increasing rates, resulting in a much more rapid diffusion of its powers to potential enemies.*

[1084] The Army Capstone Concept, 2009, p. 6.
[1085] Ibid. p. 10.
[1086] The Army Capstone Concept, 2009, p. 13.
[1087] Stephenson, Scott: The Revolution in Military Affairs: 12 Observations on an Out-of-Fashion Idea, in: Military Review, May-June 2010, p. 38-46, here p. 46.

This constant change limits U.S. ability to rely on a technological advantage against conventional or irregular forces."[1088]

The 2009 *Capstone Concept* did evolve the threat accordingly and showed how the technology would empower the enemies of the United States: *"Potential enemies will increase the range, accuracy, and lethality of direct and indirect fire weapons capabilities as state and nonstate threats upgrade older systems with new ammunition and readily available technology (such as commercially available geographic information system data to improve targeting)."*[1089] Paul S. Oh argued also that *"technology's availability and ease of transfer allow broader access to previously unavailable weapons."*[1090] And Oh concluded how *"adversaries will continue to benefit from wide availability of weapons, and they will continue to modify what is cheaply available to cause maximum damage on U.S. forces."*[1091]

To prevail in this environment and against these technologically-empowered enemies, the *Capstone Concept* emphasized that the Army primarily needed to be able to fight as a *combined arms* team: *"The ability to fight as a combined arms team – to integrate fire and maneuver and appropriate combinations of infantry, mobile protected firepower, offensive and defensive fires, engineers, Army aviation, and joint capabilities – will remain the Army's most fundamental and important competency."*[1092] The *Operating Concept* then featured a comprehensive description of how *combined arms* in an era of persistent conflict would look like: *"To overcome complex adaptive threats in the future, Army forces apply an expanded understanding of combined arms that incorporates the broad range of civil and military capabilities necessary to achieve strategic goals and objectives."*[1093] Not only did the *Concept* take civil and military capabilities into account, its authors did as well incorporate a range of traditional terms in a statement regarding the enemy's *"balance"* and his *"will"*: *"Army forces conduct combined arms maneuver to throw the enemy off balance, follow up rapidly to prevent recovery, and destroy his will to fight."*[1094] The fight against the enemy therefore still incorporated the boxing-match-like struggle and contest of *"wills"* as well as *"maneuver"*

[1088] Oliver, Irvin: Mechanized Forces in Irregular Warfare, in: Military Review, March-April 2011, p. 60-68, here p. 61.
[1089] The Army Capstone Concept, 2009, p. 14.
[1090] Oh, Paul S.: Future Strategic Environment in an Era of Persistent Conflict, in: Military Review, July-August 2009, p. 68-79, here p. 74.
[1091] Ibid. p. 76.
[1092] The Army Capstone Concept, 2009, p. 19.
[1093] The United States Army Operating Concept, 2010, p. 13.
[1094] Ibid. p. 13.

in a geographical manner. To be victorious in this battle the Army had still to be able to fight the *Full Spectrum Operations*, as General Wallace had described in 2008: *"The Army's operational concept – full-spectrum operations – requires continuous simultaneous offensive, defensive, stability or civil-support tasks."*[1095] And the Operating Concept in 2010 as well demanded the capability to fight *simultaneously* in different types of operations: *"Army forces conduct offensive, defensive, and stability or civil support operations simultaneously to defeat enemies and secure populations."*[1096] This description brings reminiscences of marine General Charles C. Krulaks *Three Block War* in the late 1990s, a concept that described the complex spectrum of challenges likely to be faced by soldiers on the modern battlefield. In Krulaks' thesis, soldiers would be required to conduct full-scale military action, peacekeeping operations, and humanitarian aid within the space of three contiguous city blocks.[1097] But overall there were also critical voices against the shift which the United States Armed Forces did in these years towards COIN. Some authors even argued that there was too much emphasis on the operations in Iraq and Afghanistan. Scott Stephenson wrote in 2010: *"The United States faces an ongoing conflict in Afghanistan. Yet the Pentagon will not have the luxury of putting an exclusive emphasis on counterinsurgency. There are just too many other, different dangers on the horizon."*[1098] And in Summer 2011, Major General Michael S. Tucker, commander of the *2nd Infantry Division,* and Major Jason P. Conroy, chief of *Operational Assessments* at the *Joint Functional Component Command for Space*, and the author of *Heavy Metal: a Tank Company's Battle to Baghdad*, wrote in *Military Review: "If we have learned anything from the current conflicts, it is that our enemies will seek to use a full array of threats against us. They will employ a mixture of these threats and transition among them over the course of an extended campaign."*[1099] Tucker and Conroy then as well mourned the degradation of more traditional capabilities: *"Maneuvering mounted forces to close with and destroy the enemy through direct and indirect fire is quickly becoming a lost art. Today's maneuver organizations are very good at operating at the independent platoon level, but*

[1095] Wallace, FM 3-0 Operations, p. 3.
[1096] The United States Army Operating Concept, 2010, p. 26.
[1097] Cf. Krulak, Charles C.: The Strategic Corporal: Leadership in the Three Block War, in: Marines Magazine, January 1999.
[1098] Stephenson, Scott: The Revolution in Military Affairs: 12 Observations on an Out-of-Fashion Idea, in: Military Review, May-June 2010, p. 38-46, here p. 45.
[1099] Tucker, Michael S. / Conroy, Jason P.: Maintaining the Combat Edge, in: Military Review, May-June 2011, p. 8-16, here p. 9.

they cannot operate as a maneuver element in an integrated combined arms force."[1100] The description shows how these authors indeed feared an ongoing *reconstruction* of the Army's units towards a more COIN-oriented force, which they criticized and saw as endangering the *conventional* capabilities that the Army had built over two decades. The discourse on war and warfare which the Army inherently cultivates hereby holds frontiers that cannot be overcome; the Army's main purpose still is to fight decisively against a *peer* enemy, a *regular* one fighting with *conventional* means mainly.

A Hybrid threat

While therefore some authors encouraged the Army's leadership to strengthen *conventional* concepts again, others deemed a blended form of threat or enemy more important. Retired Colonel John J. McCuen, an author and consultant on *counterinsurgency warfare*, argued in a Military Review article*: "Our enemies' strategic and tactical objectives are thus not to destroy our conventional military forces and seize critical terrain, but to seize, control, and defend critical human terrain until we give up the fight."*[1101] While McCuen used the *human terrain* coined later by Petraeus, he then wrote further how wars today were fought in a *hybrid* manner:

> *"Although conventional in form, the decisive battles in today's hybrid wars are fought not on conventional battlegrounds, but on asymmetric battlegrounds within the conflict zone population, the home front population, and the international community population. Irregular, asymmetric battles fought within these populations ultimately determine success or failure."*[1102]

The *terminus hybrid* wars had already been coined by Lieutenant General James N. Mattis and retired Lieutenant Colonel Frank Hoffman in a 2005 *Proceedings Magazine* article (referring to a *Four Block War* [!], the additional element being the psychological or *"information"* aspect) and even earlier by William J. Nemeth in a study on Chechnya.[1103] McCuen then added a quite comprehensive description of these *hybrid* wars, which would later make its way in official Army parlance:

[1100] Tucker / Conroy, Maintaining the Combat Edge, p. 12.

[1101] McCuen, John J.: Hybrid Wars, in: Military Review, March-April 2008, p. 107-113, here p. 109.

[1102] McCuen, Hybrid Wars, p. 107.

[1103] Hoffman, Frank G. / Mattis, James N.: Future Warfare: The Rise of Hybrid Wars, in: Proceedings Magazine, November 2005 Vol. 132/11/1,233. Cf. as well Hoffmann, Frank G.: Hybrid Warfare and Challenges, in: Joint Forces Quarterly, Vol 52, 1/2009, p. 34-39. Nemeth, William J.: Future war and Chechnya : a case for hybrid warfare, Naval Postgraduate School, Monterey, 2002.

> *"Thus, hybrid wars are a combination of symmetric and asymmetric war in which intervening forces conduct traditional military operations against enemy military forces and targets while they must simultaneously – and more decisively – attempt to achieve control of the combat zone's indigenous populations by securing and stabilizing them (stability operations). Hybrid conflicts therefore are full spectrum wars with both physical and conceptual dimensions."*[1104]

McCuen would with his definition of *"Hybrid conflicts"* be even more comprehensive as the Army as an institution. He saw *"physical and conceptual dimensions"*, imagining a war without the discoursive constraints that the Army imposed on its own image of war. Michael W. Isherwood, a retired USAF colonel, fighter pilot and senior analyst at the Northrop Grumman Analysis Center, described the *hybrid* threat similarly in a 2009 *Air Force Magazine* article: *"Hybrid warfare blurs the distinction between pure conventional and pure irregular warfare. At present, it is also a term with at least three applications. Hybrid can refer, first, to the battlespace environment and conditions; second, to enemy strategy choices; and third, to the type of force the US should build and maintain."*[1105] But the term *hybrid* only described something that military thinkers had already had in their minds earlier. Indeed, the FM *100-5* 1993 edition had already spoken about a combination of *conventional* and *unconventional* warfare existing side by side:

> *"The components of battle can be joined in a limitless array of complex combinations. Army forces maneuver to bring firepower on the enemy, and bring firepower on the enemy in order to maneuver. […] Unconventional and conventional warfare can exist side by side, the one flowing to the other and back again. […] the commander does everything in his power to throw the enemy off balance, to strike the enemy with powerful blows from unexpected directions or dimensions, and to press the fight to the end."*[1106]

While the TRADOC pamphlets in the years 2009 and 2010 did incorporate some very small hints towards the *hybrid* threat, only a 2011 Change (*C1*) to the FM *3-0* from 2008 did incorporate inserts regarding the new concept or buzzword *hybrid*. One of them read: "*A hybrid threat is the diverse and dynamic combination of regular forces, irregular forces, criminal elements, or a combination of these forces and elements all unified to achieve*

[1104] Hoffman / Mattis, Future Warfare, p. 108.
[1105] Isherwood, Michael W.: Airpower for Hybrid War, in: Air Force Magazine, October 2009, p. 30-35, here p. 31.
[1106] FM 100-5, Operations, 1993, p. 2-2 up to 2-3.

mutually benefitting effects."[1107] And while FM *3-0 C1* did describe the range of threats from nation-states, organizations, people, groups, or conditions that can damage or destroy life, vital resources, or institutions, it categorized them as either *"traditional, irregular, catastrophic, and disruptive"*[1108], still in a very military fashion. Future enemies (or now called adversaries as well, using a very new wording) would then try to blend these categories and make it that more difficult to fight them in process: *"Adversaries seek to create an advantage over U.S. forces by combining traditional, irregular, catastrophic, and disruptive capabilities. These combined threats change the nature of the conflict, enabling adversaries to use capabilities for which the United States is least prepared. Adversaries seek to interdict U.S. forces attempting to enter any area of crisis."*[1109] The whole *hybrid* concept was somehow a merge between the United States' experiences in Afghanistan as well as a hint towards the emerging Chinese capabilities, which will be examined in-depth in the next chapter. The *anti-access* threat was used to show how, even if the United States' forces got into the fight, the enemy would use every mean at his disposal to make it harder for the services to fight him:

> *"If U.S. forces successfully gain entry, adversaries often engage them in complex terrain and urban environments to offset U.S. advantages. Methods used by adversaries include dispersing their forces into small, mobile combat teams – combined only when required to strike a common objective – and becoming invisible by blending in with the local population."*[1110]

The authors again described the United States as actor, being on the offensive (*"gain entry"*). While these descriptions indeed showed how the Army's leadership was ready to accept a new image of war, the Army went even further publishing a completely new *Manual* in autumn 2011. The new *Manual* was named *Army Doctrine Publication* (ADP) *3-0*, *Unified Land Operations*, and should represent a blending between *AirLand Battle* and *Full Spectrum Operations* to incorporate both the *conventional* and COIN environments and the experiences the Army had made in the previous years. While the overly small doctrine document still retained core definitions of terms such as *"depth"* as they were in FM *3-0, C1*, the main focus belonged to the *hybrid* threat:

[1107] Headquarters, Department of the Army: Field Manual 3-0, C1, Operations, Washington, DC, 2011, p. 1-5.
[1108] FM 3-0, C1, Operations, 2011, p. 1-3 - 1-4.
[1109] Ibid.p. 1-3 - 1-4.
[1110] FM 3-0, C1, Operations, 2011, p. 1-3 - 1-4.

> *"The most likely security threats that Army forces will encounter are best described as hybrid threats. A hybrid threat is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, criminal elements, or a combination of these forces and elements all unified to achieve mutually benefitting effects. Hybrid threats may involve nation-state adversaries that employ protracted forms of warfare, possibly using proxy forces to coerce and intimidate, or nonstate actors using operational concepts and high-end capabilities traditionally associated with nation-states."*[1111]

The new ADP described the hybrid threat similarly as the FM *3-0 C1* had done (*"diverse and dynamic combination of regular forces, irregular forces, terrorist forces, criminal elements, or a combination of these forces"*), thereby assuming that all elements would be employed by a single steering entity (*"all unified to achieve mutually benefitting effects"*). Seen from the outside, it seems problematic that the United States (and many Western scholars) did expect the enemy to be a single acting entity. Even if that would make EBO-like actions easier, if it is not the case, the United States is mentally not able to cope with a real diverse enemy. Peter R. Mansoor and Williamson Murray argue in their 2012 monograph about *Hybrid Warfare*, that the United States Army at the least had acknowledged the *"simultaneity"* of combat and *stability operations* in its most current doctrine. In their eyes, the doctrine writers did well to eliminate the phased approach to combat and post-combat operations, for in the real world, they would blur together.[1112] But Mansoor and Williamson criticize, on the other hand, that to counter *hybrid* opponents, the United States would have to first understand the characteristics of *hybrid* warfare. Both authors suggested that the intellectual apparatus of the American military, especially the *Staff* and *War Colleges*, had failed to understand the future by reference not only to the distant past but to the immediate past as well.[1113] Because despite its prominence as the latest buzzword, *hybrid* warfare was, according to Mansoor and Williamson, not new: *"Its historical pedigree goes back at least as far as the Peloponnesian War in the fifth century BC."*[1114] Mansoor and Williamson then further argue that the *"U.S. conventional military superiority, at least for the immediate future, will force potential opponents to develop alternate means to achieve their goals and oppose American*

[1111] Headquarters, Department of the Army: Army Doctrine Publication 3-0, Unified Land Operations, Washington, DC, October 2011, p. 4.
[1112] Mansoor, Peter R. / Murray, Williamson: Hybrid Warfare – Fighting Complex Opponents from the Ancient World to the Present, Cambridge, 2012, p. 16.
[1113] Mansoor / Murray, Hybrid Warfare, p. 2.
[1114] Ibid. p. 3.

power. Increasingly, those means will include conventional as well as irregular – hybrid – forces working in tandem."[1115]

While these two authors saw nothing new in *hybrid* warfare, others would of course criticize how many threats now suddenly seemed to be *hybrid*. Major Christopher O. Bowers, currently a strategic planner at the *Army Capabilities Integration Center* (ARCIC), argued accordingly: *"The pitfall for numerous studies related to hybrid threats and hybrid warfare is that they set the aperture too wide in identifying who and what a hybrid threat is. It is only natural that every armed force will use any and every means available to it."*[1116] Bowers then described what really made a threat *hybrid*: *"A fully developed hybrid adversary will be able to transition between irregular or guerilla war, and highly conventional warfare in company- or larger-sized formations at will."*[1117] While in Vietnam, the United States' enemy had also tried to switch to a *conventional* war (from IW), now today Bowers saw theses enemies switch even *"at will"*. Lieutenant General Robert L. Caslen, Jr., the commander of the CAC, wrote similarly: *"Combat experience and intelligence assessments often focus on hybrid threats that combine in a decentralized manner the characteristics of conventional and unconventional forces, terrorists, and criminals."*[1118] Bowers even gave an example how a *hybrid* adversary would operate:

> *"The Iraqi forces of Saddam Hussein attempted to organize and fight against the US-led coalition invasion in a manner that many would call hybrid. They included conventional formations, tanks, artillery, and missiles. They also included 'Saddam's Fedayeen' and foreign irregular fighters, suicide attacks, the use of human shields, information and media campaigns, and outreach to American celebrities and Arab populace."*[1119]

While Bowers used the Fedayeen as an example how an enemy could resort to *hybrid* tactics, Colonel Leslie F. Brown wrote in a 2011 USAWC paper how *"the enemies we face today as in the future will combine tactics, techniques, and procedures of both regular and irregular warfare to level the battlefield with the United States and its allies."*[1120] While

[1115] Mansoor / Murray, Hybrid Warfare, p. 2.
[1116] Bowers, Christopher O.: Identifying Emerging Hybrid Adversaries, in: Parameters, Spring 2012, p. 39-50, here p. 40.
[1117] Bowers, Identifying Emerging Hybrid Adversaries, p.40.
[1118] Caslen Jr., Robert L.: Change 1 to Field Manual 3-0: The Way the Army Fights Today, in: Military Review, March-April 2011, p. 84-88, here p. 84.
[1119] Bowers, Identifying Emerging Hybrid Adversaries, p. 47-48.
[1120] Brown, Leslie F.: Twenty-First Century Warfare will be hybrid, USAWC Strategy Research Project, Carlisle, PA, 2011, p. 14.

Brown described the *irregular*/*regular*-mix as postulated by the Army's doctrine writers, retired Lieutenant Colonel Scott Stephenson, an associate professor at the *United States Army Command and General Staff College,* then wrote about what the advantage was to be a *hybrid* adversary:

> *"Thus, apparently weaker forces can turn the tables on their enemies. With these examples in mind, one imagines that those who resent America's current dominance in military affairs will seek (to resurrect another former 'hot' topic) an asymmetric answer to U.S. advantages on a modern battlefield. Al-Qaeda has given us a taste of this phenomenon, and one wonders what surprises the Chinese are developing. How many brigades of technicians in Beijing and Shanghai are at work countering U.S. advantages in surveillance technology, command and control systems, and precision munitions?"*[1121]

Whereas Stephenson's description as well as ADP *3-0* lets indeed assume that the *hybrid* threat was somehow a conglomerate of the United States' recent experiences as well as a return to the warnings the 2001 QDR had issued with respect to *anti-access* threats from the PRC or Iran, the discussions around the future operating environment and enemy did produce COIN critique again as well.

Critique towards Counterinsurgency

Colonel Craig A. Collier, the military assistant for *Army Land Combat Systems, Director, Operational Test and Evaluation, Office of the Secretary of Defense*, directly criticized the COIN idea for providing security while *simultaneously* doing *reconstruction* work: *"Just because we provided, for example, a micro-power generator to an impoverished community and put its grand opening 'storyboard' into a local newspaper does not mean the project was effective. It just meant that we spent a lot of money, completed a project, and perhaps felt good about it."*[1122] Collier suggested that *"killing or capturing an insurgent consistently and quantifiably had a more positive impact than anything else we did."*[1123] And the Colonel went even further, writing that *"the FM [3-24] appealed to liberals because it posited the concept of war without blood. Enemies were converted rather than killed. It was the only FM ever*

[1121] Stephenson, Scott: The Revolution in Military Affairs: 12 Observations on an Out-of-Fashion Idea, in: Military Review, May-June 2010, p. 38-46, here p. 41.
[1122] Collier, Craig A.: Now That We're Leaving Iraq, What Did We Learn?, in: Military Review, September-October 2010, p. 88-93, here p. 89.
[1123] Ibid. p. 91.

accorded a New York Times book review, written by a Harvard professor."[1124] Collier, developing Land Systems (e.g. heavy military equipment and weapons such as tanks) hereby displayed an inherent critical stance against COIN, resembling the one from Tucker and Conroy above. While Collier had already shaken Petraeus' status as savior for the United States in Iraq, Major Irvin Oliver relegated IW and COIN to their place only amongst other types of operations: *"While irregular warfare is a likely part of the Army's future, it would be unwise to assume that conflicts like counterinsurgencies will be its exclusive bill of fare. The Army may want to maintain a significant heavy force within the active component."*[1125] Major Douglas A. Pryer, senior intelligence officer for the *British 14th Signal Regiment*, as well could not depict real success in Iraq and Afghanistan in a 2011 *Military Review* piece: *"Although Iraq is far more stable than it was two years ago, it might yet unravel into civil war. In Afghanistan, while the hope for an honorable peace has sprung anew with our recent troop surge, that conflict is best described at present as a stalemate."*[1126] And this *"stalemate"* did not please typical military thinking, obviously.

Mansoor and Williamson nonetheless write in their monograph *Hybrid Warfare* how as the United States military prepares for the future, it would be a serious mistake to disregard the lessons of several thousand years of recorded history. Both authors suggest that the United States cannot merely focus on the wars it wants to fight and ignore the rest, for messy small wars have a way of challenging the United States despite its *conventional* superiority.[1127] Mansoor and Williamson therefore argue that future wars would likely entail an increasingly vague distinction between the *conventional* and the *irregular*, being closely associated with the superpower status the United States enjoyed for a rather long period of time. Therefore, the forms (and categories the Army writes about) will meld into one, *"thereby creating a hybrid form of war that takes advantage of the most effective parts of conventional and irregular operations."*[1128] Thereby the supporters of a more *conventional* approach towards warfare did see their chance to change the course in the discussions on warfare again away from *unconventional warfare*. *Indeed*, Michael W. Isherwood, retired USAF colonel, saw how Airpower would play a role at the center stage in operations against *hybrid* threats:

[1124] Collier, Now That We're Leaving Iraq, What Did We Learn?, p. 89.
[1125] Oliver, Irvin: Mechanized Forces in Irregular Warfare, in: Military Review, March-April 2011, p. 60-68, here p. 61.
[1126] Pryer, Douglas A.: Controlling the Beast Within: The Key to Success on 21st-Century Battlefields, in: Military Review, January-February 2011, p. 2-12, here p. 10.
[1127] Mansoor / Murray, Hybrid Warfare, p. 16.
[1128] Ibid. p. 13.

> *"In hybrid contests of the future, US forces could confront state and nonstate adversaries who employ a range of what could be considered 'conventional' weapons – from guided mortars to cruise missiles to cyber weapons – in a manner merging lethal and nonlethal effects. The adversaries may employ ambush tactics one day while engaging in fixed conventional attacks the next. What is clear is that US air and space forces (in simple terms, 'airpower') can provide the foundation for the nation's response."*[1129]

Airpower was not only presented by Isherwood to be a possible solution for *hybrid* threats, it would as well get again into focus as mainstay of the concept *AirSea Battle*, which was then mainly focused on the Pacific and its vast distance, were the Army traditionally did not have the same stance simply because there are not any more that many Army forces based in the region.

Hybrid warfare indeed seemed to be the attempt of the Army to relinquish the categorization of *regular* and *irregular warfare* or enemies by blending them. That means that the categories were still there, in doctrine as well as in the minds of the soldiers, in the discourse on warfare. The vocabulary using terms such as *"firepower"* or *"depth"* still persisted. Either the Army could not or did not want to accept an end to the categories it used for decades. But the *terminus hybrid* was useful as it facilitated the blending of the war reality with which the Army had to get along with, and the war image of war it perhaps wanted to still uphold: the *conventional high-tech* type of war.

3.4 The Air Force, *Unified Protector* and *AirSea Battle*

As the Army leadership began (un-)consciously to tend again to a more *conventional* threat with the *hybrid* concept in 2011, Airpower advocates already wanted to show how masses of Landpower were no solution for future problems; not even in the operations that went along in Afghanistan or Iraq (where the United States officially ended combat operations in 2011). This chapter will not only explain how the Air Force did argue against Landpower, it will as well cover the emergence of a new more techno-centric concept called *AirSea Battle* originating from a public-private think tank.

[1129] Isherwood, Michael W.: Airpower for Hybrid War, in: Air Force Magazine, October 2009, p. 30-35, here p. 31.

Airpower versus Landpower again

Adam J. Hebert, Editor in Chief of the *Air Force Magazine*, argued in an April 2012 *Air Force Magazine* article against the presence of a large amount of ground forces in-theater*: "Large US ground forces have worn out their welcome. They present tempting targets for insurgents and cede many advantages to the enemy in combat. America's greatest military advantages lie elsewhere, such as in dominant airpower and surveillance and reconnaissance systems."*[1130] Hebert would rather favor a combination of SOF and Airpower, bringing the 2001 concept into the discourse again:

> *"A much-smaller contingent of special operations forces and intelligence experts, backstopped by airpower, is a better long-term mix for Afghanistan. Special operators, remotely piloted aircraft, Air Force mobility and strike assets, and good intelligence can help Afghanistan's government keep the Taliban on the run and monitor and kill terrorists. For the United States, a large conventional force in Afghanistan has become counterproductive."*[1131]

As it seems, the ideal Airpower image of war from the beginning of OEF was indeed still alive: Airpower, SOF, now even UAVs. But indigenous forces are no more present; possibly because the newly formed Afghan Army did not impress that much. Retired Lieutenant General Elder, who had served as commander, *Eighth Air Force* (*Air Forces Strategic*), and as *Joint Functional Component Commander for global strike*, *United States Strategic Command*, drew similar lessons from Afghanistan: *"The first lesson for Airmen from these Afghanistan operations is the immense value of long-range strike, including bombers and fighters, enabled by tankers. The second lesson is the capability of airpower to enable the effectiveness of indigenous ground forces against more powerful forces."*[1132] With the *"long-range strike"* Elder made the new bomber which the United States Air Force wanted to buy (dubbed *Long-Range Strike Bomber* or LRS-B) since 2010 a necessity, putting again the *"effectiveness"* to use. And retired John A. Warden III even claimed that *"Ground power, the oldest and historically most prevalent tool of conflict, is slow and normally affects only an opponent's fielded"*, reiterating his theories from the 1990s and propagating an image of an

[1130] Hebert, Adam J.: Exiting Afghanistan, in: Air Force Magazine, April 2012, p. 4.
[1131] Ibid.
[1132] Elder Jr., Robert J.: Air-Mindedness – Confessions of an Airpower Advocate Air & Space Power Journal, Fall 2009.

outdated Landpower in face of *modern* Airpower.[1133] Amy McCullough, Senior Editor of *Air Force Magazine*, wrote therefore in 2012: *"The Air Force has been among the most adaptable elements of the US military over the last decade-plus of war."*[1134] *Adaptive* being a buzzword to describe a *modern* force as well. Warden would even present Airpower as a bloodless *Way of War* again: *"With precision of effect combined with precision of impact, bloodless war becomes a reality."*[1135] Again, PGMs seemed to be the solution to almost everything, ending a war bloodless and therefore being more acceptable. And Adam J. Hebert wrote similarly: *"This is America's asymmetric advantage. The Air Force can project US power quickly, accurately, and with few casualties. Despite the unending harping by its critics, airpower isn't going anywhere."*[1136] Herbert here got again back to the 1990s Air Force speech, stating the *asymmetric* advantages Airpower brought to the United States. But other authors then argued against these theories still *en vogue* and presented, here Dr. J. Boone Bartholomees Jr., Professor of Military History in the *Department of National Security and Strategy* at the *United States Army War College*, critical voices towards the ideas: *"Examples of the limitations of shock and awe-style strategies of moral annihilation come from the two US wars with Iraq."*[1137] The limitations were seen in OEF as well as in OIF: while Airpower, EBO and NCW had indeed helped to quickly defeat the enemy in the open, they had not led to quick conflict termination in both cases as shown above.

Nonetheless, different authors showed that the United States would have to look beyond Afghanistan and Iraq. Lieutenant Colonel Cox, the legal adviser to the *603rd Air Operations Center* in Germany, saw Europe and the Pacific as possible new areas for conflicts and operations: *"Almost all of the major conventional military scenarios with which the United States is concerned these days require air-to-air power on scene as quickly as possible (e.g., defense of the Taiwan Strait and the new North Atlantic Treaty Organization member states along the Baltic, where we have only limited immediate capability)."*[1138] And in the Pacific especially, Airpower would be more important than ever, as Richard Halloran argued, formerly with the *New York Times* as a foreign correspondent in Asia and as a military

[1133] Warden III, John A.: Strategy and Airpower, in: Air & Space Power Journal, Spring 2011, p. 65-77, here p. 75.
[1134] McCullough, Amy: Advocating for the Air Force, in: Air Force Magazine, November 2012, p. 28-34, here p. 28.
[1135] Warden, Strategy and Airpower, p. 74.
[1136] Hebert, Adam J.: The False Death of Airpower, in: Air Force Magazine, August 2011, p. 4.
[1137] Boone Bartholomees Jr., J.: The Issue of Attrition, in: Parameters, Spring 2010, p. 5-19, here p. 8-9.
[1138] Cox, Bruce D.: Global Power Requires a Global, Persistent Air-to-Air Capability, in: Air & Space Power Journal, Winter 2010, p. 47-56, here p. 47-48.

correspondent in Washington, D.C., then a freelance writer based in Honolulu: *"Airpower plays a key role in overcoming vast Pacific distances because of its ability to swiftly concentrate forces and coordinate quick responses to crises."*[1139] But Airpower advocates would criticize how COIN had deprived Airpower from its resources. John T. Correll, former Editor in Chief of the *Air Force Magazine* lamented in 2012:

> *"In any case, the decline of airpower is still in progress, and the Air Force has already been cut so much that a bounce-back will be difficult. The land power culture in the Pentagon, strong before, has gotten much stronger. How much change it will tolerate remains to be seen. The imbalance in strategy and forces could persist. It could get worse. But it cannot continue indefinitely without encountering a critical crisis or challenge which – for the first time – the United States may not be prepared to meet."*[1140]

Indeed, in early 2012 the Air Force decided to retire about 200 older aircraft without replacement, representing 5 percent of the overall fleet of 4'000.[1141] Airpower proponents liked to deplore the degradation of the United States' *conventional* capabilities and technological edge in an *alarmist* fashion, in the end even seeing an *only* Landpower culture on the highest military level. Rebecca Grant had as early as in 2009 written, that adversaries would catch up while the United States was occupied with COIN operations:

> *"The biggest near-term threat to stealth is not in some foreign workshop. It can be found right here at home. The clear need for stealth aircraft for air superiority and global strike missions has all but dropped out of the national security discussion. […] Potential adversaries must be smiling at the prospect of the United States unilaterally giving up on one of its greatest military advantages."*[1142]

Stealth returns here again as one of the most important means to win every type of war, enabling *"global strike missions"*. About 8 years before, Airpower proponents had argued in favor of a similar concept (*Global Strike Task Force*) in the realm of the opening strikes in OEF. But 2009 was also the year when the Obama administration stopped the production of the *F-22 Air Superiority Fighter*. This decision was debated heatedly and surely led to comments such as the one above by Rebecca Grant. In the very same year, Michael S. Gerson, a research analyst at the *Center for Naval Analyses*, a federally funded research

[1139] Halloran, Richard: The New Line in the Pacific, in: Air Force Magazine, December 2007, p. 34-39, here p. 36.
[1140] Correll, John T.: Losing Altitude, in: Air Force Magazine, October 2012, p. 4.
[1141] Ackerman, Spencer / Shachtman, Noah: Air Force will lose hundreds of planes in new Pentagon plan, wired.com, accessed 06/23/2015.
[1142] Grant, Rebecca: The Murky Future of Stealth, in: Air Force Magazine, February 2009, p. 52-56, here p. 56.

center, argued that *conventional* capabilities would still be necessary in the near future: *"The importance of the credibility of US conventional capabilities remains relevant. Future adversaries may discount conventional threats in the mistaken belief that they could circumvent US forces via a fait accompli strategy or otherwise withstand, overcome, or outmaneuver the United States on the conventional battlefield."*[1143] Therefore, deterring future opponents would still be important, as then John F. Farrell and Adam B. Lowther would argue in a 2012 *Air & Space Power Journal* article: *"Bombers designed for global precision attack, for example, send a clear signal to adversaries that the US Air Force can strike anywhere on the earth with speed and precision."*[1144] *Long Range Strike* (LRS) was then the new conceptual name for the ability to strike globally. Major Wade S. Karren, chief of legislative affairs for *Air Force Global Strike Command* (AFGSC), established at the end of 2009 to improve the management of the Air Force portion of the United States' nuclear arsenal, described then what the United States needed to be capable of:

> *"The United States must be able to engage flexibly or hold at risk targets anywhere in the world with conventional or nuclear payloads. […] These operations will necessitate more responsive space assets and intelligence, surveillance, and reconnaissance aircraft with penetration capability supported by electronic attack or other standoff weapons capable of degrading a modern IADS."*[1145]

The most interesting part of this statement seems to be the author and his profession. How would flexible strike be possible when a legal advisor was necessary? While technology could at one point be ready to strike flexible and fast, would there be time for political and legal discussions? In Operation *Allied Force*, one of the problems politically was the selection of targets.

China and AirSea Battle

At the same time, a modern *Integrated Air Defense System* (IADS) would not be found in Afghanistan or Iraq, so perhaps these were the wrong countries to fight a *"modern war"*. Marc V. Schanz, wrote in early 2011: *"Future threat environments would not be as permissive*

[1143] Gerson, Michael S.: Conventional Deterrence in the Second Nuclear Age, in: Parameters, Autumn 2009, p. 32-48, here p. 43.
[1144] Farrell, John F. / Lowther, Adam B.: From the Air – Rediscovering Our Raison D'être, in: Air & Space Power Journal, July-August 2012, p. 61-102, here p. 77.
[1145] Karren, Wade S.: Long-Range Strike – The Bedrock of Deterrence and America's Strategic Advantage, in: Air & Space Power Journal, May-June 2012, p. 70-81, here p. 78.

as what the US sees in Afghanistan, and the Air Force must be prepared to operate in them."[1146] Robert S. Dudney, then Editor in Chief of the Air Force Magazine, had as early as in 2005 argued that

> *"nobody knows the threats we will face in years to come, and it would be a mistake to neglect our own development of airpower, given the military buildups under way in China and other countries. We've been down that road before. […] In a decade in Vietnam, the US lost 2,448 fixed-wing aircraft, the result of encounters with surface-to-air missiles, agile enemy fighters, and dense anti-aircraft artillery."*[1147]

Dudney did then elaborate on the PRC and continue, bringing the vast country into the discourse on the (future) enemy: *"As the China case shows, the danger of big, regional clashes of modern conventional forces will be around for a while, and the US needs first-class weapon systems to compete effectively."*[1148] And the very same author would again reason in early 2007: *"Today's major-war scenarios feature huge adversaries such as China, Russia, North Korea, and Iran. Against those foes, experts agree, US air, space, naval, and special operations forces would dominate, with conventional land forces in a lesser role."*[1149] In this scenario, Landpower was not that important, as described above at the beginning of this chapter. Or even entirely negligible, if one did not count SOF to *conventional* Landpower. Richard Halloran then as well focused on China as the main possible competitor which the United States would have to face militarily: "*China looms largest in US calculations. The uppermost question is whether the communist giant will use its armed power to attempt a conquest of Taiwan, the island over which Beijing claims sovereignty."*[1150] Dr. Jeffrey Record had, as early as in 2001 after the QDR, seen China entering the center stage of planning: *"The Chinese almost certainly would pursue an asymmetric war against the United States involving attempted preemption of US military access to the region; disruption of US sea and air lines of communication; and attacks on US command, control, and communications, possibly including satellites."*[1151] Record already used the *anti-access* scenario. The *anti-*

[1146] Schanz, Marc V.: Afghanistan and after, in: Air Force Magazine, April 2011, p. 22-28, here p. 24.
[1147] Dudney, Robert S.: The Air Force at a Crossroads, in: Air Force Magazine, September 2005, p. 2.
[1148] Dudney, Robert S.: China Rising, in: Air Force Magazine, June 2005, p. 2.
[1149] Dudney, Robert S.: The Battle of the Boots, in: Air Force Magazine, March 2007, p. 2.
[1150] Halloran, The New Line in the Pacific, p. 34.
[1151] Record, Jeffrey: Thinking about China and War, in: Aerospace Power Journal, Winter 2001, p. 69-80, here p. 76.

access concept began to feature high again at the end of the 2000s. Michael S. Gerson wrote in a 2009 autumn *Parameters* article:

> *"China, for example, is developing a range of anti-access and area-denial capabilities intended to diminish the capacity of extra-regional nations to deploy, operate, and sustain forces in its geographical region. The ability, whether real or perceived, to prevent or weaken US power projection capability and operational effectiveness can undermine deterrence efforts. Consequently, the credibility of conventional deterrence – and execution of the threat if deterrence fails – requires convincing potential aggressors that the United States can and will rapidly respond to aggression against its global interests, and that there is nothing the regime can do to prevent or hinder the response."*[1152]

Gerson already somehow anticipated that the United States would need a new concept to overcome the challenges a *peer* such as the PRC would pose (in defending itself against the United States, of course). It seemed to be a first since the end of the Cold War that the United States could itself be *"deterred"*, *"weakened"* or *"prevented"* from any action. The perceived *"aggression"* by the PRC was synonymous to it defending itself. Rebecca Grant had similarly argued in a January 2009 piece:

> *"China is an avid customer for air dominance technology in every form, from missiles to aircraft carriers. Beijing does not much worry about global power projection, stability operations, or big land campaigns. China's battlespace is in and around China itself. Chinese doctrine focuses on campaigns – a series of battles for local objectives. Rapid defeat of the enemy is the main objective and the preferred method is to inflict strategic and operational paralysis or even defeat the enemy with one strike. The air battle is absolutely central to China's campaign plans."*[1153]

And Grant therefore, logically, put Airpower already in the forefront of the efforts to overcome any threat by the PRC. Again *termini* such as the *paralysis* got back into the Airpower discourse, better fitting to it than COIN did at the same time. Techno-centric and easy-sounding, Airpower would rapidly *paralyze* the PRC's Armed Forces, as it had been done to Iraq in 1991, by using *Stealth* and long-range means.

[1152] Gerson, Michael S.: Conventional Deterrence in the Second Nuclear Age, in: Parameters, Autumn 2009, p. 32-48, here p. 40.

[1153] Grant, Rebecca: The Six Phases of Airpower, in: Air Force Magazine, January 2009, p. 46-50, here p. 48.

In September 2009 the United States Air Force *Chief of Staff*, General Norton Schwartz, signed a classified memorandum to initiate an effort to develop a new operational concept known as *AirSea Battle* together with Admiral Gary Roughead, the United States Navy's *Chief of Naval Operations* (CNO).[1154] But interestingly, some early thoughts on *AirSea Battle* would come from the *Center for Strategic and Budgetary Assessments* (CSBA), an independent, non-profit think tank specializing in United States defense policy, force planning, and budgets. The majority of CSBA's income seems to come from research support under contract with the Department of Defense. CSBA is still as of 2015 headed by Andrew Krepinevich, who had already in the early 1990s spurred the debate on the RMA.[1155] Krepinevich wrote in a 2009 *Foreign Affairs* article, how the PRC would manage to hinder the United States' military efforts in East Asia:

> *"The Chinese approach would entail destroying or disrupting the U.S. military's communications networks and launching preemptive attacks, to the point where such attacks, or even the threat of such attacks, would raise the costs of U.S. action to prohibitive levels. […] Chinese efforts are focused on developing and fielding what U.S. military analysts refer to as 'anti-access/area-denial' (a2/ad) capabilities. Generally speaking, Chinese anti-access forces seek to deny U.S. forces the ability to operate from forward bases, such as Kadena Air Base, on Okinawa, and Andersen Air Force Base, on Guam."*[1156]

While Krepinevich had already in his 1992 assessment warned that other nations would try to not match, but *asymmetrically* counter the United States RMA capabilities, he described in a 2010 CSBA study how the PRC would now indeed try to hinder the United States Armed Force's entry into a battle:

> *"China's ability to disrupt or destroy key elements of the US military's battle network could cripple US power-projection operations. The preponderance of US precision-guided weaponry, for instance, is dependent on GPS satellite systems for their targeting information. Some US unmanned aerial vehicles, such as the Predators, are incapable of operating in the absence of satellite data links to their remote controllers."*[1157]

[1154] Krepinevich, Andrew F.: Why AirSea Battle, Center for Strategic and Budgetary Assessments (CSBA), 2010, p. 1.
[1155] See chapter 2.2.
[1156] Krepinevich, Andrew F.: The Pentagon's Wasting Assets – The Eroding Foundations of American Power, in: Foreign Affairs, Volume 88 No.4, July/August 2oo9, p. 18-33, here p. 22.
[1157] Krepinevich, Why AirSea Battle, p. 16.

Not only would China jam or disrupt the space-based systems the United States needed to communicate, target and surveil, as many had warned before, the PRC would even act preemptively, so that the United States would be in the defensive in the first few hours or days in a potential conflict: *"To defeat US forces, the Chinese military would conduct preemptive attacks (including cyber strikes) on US theater ports and airfields, aircraft carriers and large surface combatants operating in theater, as well as on logistics, transportation, and support forces, and US battle networks."*[1158] Only one other country was perceived by Krepinevich as being able to test the United States resolve and capabilities in a similar way: *"Iran, on the other hand, is primarily interested in creating circumstances under which it becomes too costly for the United States to project power into a far smaller geographic area: the Persian Gulf, which is barely 600 miles long and between 40 and 210 miles wide."*[1159]

But while Krepinevich took Iran into account, a more detailed CSBA concept then mainly focused on the Pacific (e.g. the PRC) and argued how its name was derived from *AirLand Battle*: *"Just as AirLand Battle doctrine development was spurred by the shifting military balance in Central Europe, a viable AirSea Battle concept must address the implications of a shifting military balance in the Western Pacific."*[1160] As authors of this concept figured, beneath Andrew Krepinevich, as well Mark Gunzinger, former *Deputy Assistant Secretary of Defense for Forces Transformation and Resources*, Jim Thomas, former *Deputy Assistant Secretary of Defense for Resources and Plans* and *Acting Deputy Assistant Secretary of Defense for Strategy*, and Jan van Tol, a retired Navy Captain and former special adviser in the *Office of the Vice President*. At the beginning of their paper, the authors described what the PRC's intent was:

> *"The PLA's [People's Liberation Army] objective would be to deny US forces the ability to generate substantial combat power from its air bases in the Western Pacific; conduct major strikes using land-based anti-ship ballistic missiles (ASBM) and anti-ship cruise missiles (ASCM) launched from various platforms and submarines against all major US Navy and allied warships at sea within 1,500 nm of the Chinese coast, with particular emphasis on the maritime areas around the PRC's littorals. The PLA's objective would be to raise the cost of the US and allied fleet operations within this 'keep-out' zone to*

[1158] Krepinevich, Why AirSea Battle, p. 16.
[1159] Ibid. p. 27.
[1160] Gunzinger, Mark / Krepinevich, Andrew F. / Thomas, Jim / van Tol, Jan: AirSea Battle – A Point-of-Departure Operational Concept, Center for Strategic and Budgetary Assessments (CSBA), 2010, p. 8.

prohibitive levels; and Interdict US and allied sea lines of communication (SLOCs) throughout Southeast Asia and the Western Pacific."[1161]

While the concept laid out how the United States' involvement in a potential scenario in the Western Pacific would be impeded by Chinese Forces, the concept also described two phases in which *AirSea Battle* would take place to counter Chinese efforts:

"The AirSea Battle campaign has two distinct stages. The initial, early stage, commencing with the outbreak of actual hostilities, would comprise these four distinct lines of operation: Withstanding the initial attack and limiting damage to US and allied forces and bases; Executing a blinding campaign against PLA battle networks; Executing a suppression campaign against PLA long-range, principally strike systems; Seizing and sustaining the initiative in the air, sea, space and cyber domains."[1162]

After wrestling the initiative from Chinese forces, the United States would initiate a second phase of *AirSea Battle*:

"The follow-on second stage would comprise various subsequent operations and measures that would contribute to the larger US strategy creating options to resolve a prolonged conventional conflict on favorable terms and reverse any initial military gains by the adversary. These would include: Executing a protracted campaign that includes sustaining and exploiting the initiative in various domains; Conducting 'distant blockade' operations; Sustaining operational logistics; and Ramping up industrial production (especially precision-guided munitions)."[1163]

While the whole scenario could be questioned simply because of the political and economic consequences the outbreak of a major war between the United States and the PRC would have, it still represented a more or less mature strategy after a phantasy Pearl Harbor-style attack on United States Armed Forces poised in the Western Pacific.[1164] Nonetheless, the concept mostly suggested a technological answer to the imagined threat, mainly in the air and on the seas:

"The Air Force and Navy should jointly develop a long-range precision-strike family of systems that consists of ISR, airborne electronic attack, and strike assets. Against potent A2/AD battle networks, synergistic employment of such systems would be a prerequisite

[1161] AirSea Battle – A Point-of-Departure Operational Concept, p. 21.
[1162] Ibid. p. 52f.
[1163] Ibid. p. 53.
[1164] The study authors indeed made a hand full of relations to the attack on Pearl Harbor in 1941, using an important historical occasion as an argument. See pages 29, 30 and 36.

for degrading an adversary's IADS, ISR, and C2 networks. In particular, penetrating, persistent airborne electronic attack platforms would increase the survivability of stand-off munitions and penetrating aircraft striking fixed and mobile targets in contested airspace."[1165]

The mentioned *Long Range Strike* featured heavily in the portfolio of technological means to counter the *anti-access* threat: *"The Air Force should develop a survivable multi-mission, long-range persistent strike platform."*[1166] CSBA would then in 2011 support its claim, that the PRC could impede the United States' technological dependencies, with another study written by Barry D. Watts who had been head of the *Office of Program Analysis and Evaluation* in the Department of Defense from 2001 until 2002:

"U.S. military dependence on relatively unimpeded access to the global commons in both space and cyberspace has expanded enormously since 1991. At the heart of this dependency is the requirement of current U.S. guided munition – notably the LGBs and JDAMs [Joint Direct Attack Munition][1167] *that have been three-quarters of combat expenditures – to have precisely located aim points. […] In addition to camouflaging, concealing, relocating, hardening, or deeply burying prospective targets […] the PRC, among others, has invested in capabilities to attack the space- and cyberspacebased information flows on which U.S. target acquisition, battlespace management, and C2 depend."*[1168]

Not only had the Chinese capabilities to disrupt the United States technological advantages grown, at the same time the PRC had, according to Watts' study, developed its own RMA capabilities, namely in the area of PGM:

"The story of conventional precision strike from the early 1990s to the present, then, has been largely one of U.S. monopoly and dominance. That happy situation, however, is coming to an end. In the years ahead, U.S. forces will be confronted with long-range

[1165] AirSea Battle – A Point-of-Departure Operational Concept,p. 83f.
[1166] Ibid. p. 84.
[1167] JDAM is the overall product name for a guidance kit which turns *dumb* bombs easily into PGMs by adding a GPS and correctional fins.
[1168] Watts, Barry D.: The Maturing Revolution in Military Affairs, Center for Strategic and Budgetary Assessments, 2011, p. 19.

> *RUKs[1169] such as those the Chinese are developing as part of a broader A2/AD strategy in the Western Pacific."[1170]*

Taken altogether, the threat scenario and the possible solution provided by *AirSea Battle* were a formidable template to formulate doctrine as well new procurement projects for a more *conventional* image of war again. Whom, when not the Air Force, would that prerogative suit more. *Chief of Staff of the Air Force* General Norton A. Schwartz and *Chief of Naval Operations* Admiral Jonathan W. Greenert told their audience: *"With Air-Sea Battle, we are reinvigorating the historic partnership between our two departments to protect the freedom of the commons and ensure operational access for the Joint Force."*[1171] Accordingly, the two Air Force-related journals analyzed in the scope of this thesis indeed happily took on *AirSea Battle*. Marc V. Schanz, using the statements regarding the withering technological edge of the United States, wrote in early 2011: *"Potential 'strategic adversaries' have taken advantage of their own tailored investments and have designed forces and tools to challenge the ability of the US to project military power and maneuver."*[1172] Schanz hereby reiterated the United States' *right* to be able to *"project military power and maneuver"*. In the discourse of the United States Armed Forces nobody should be able to elude intervention. Richard Halloran argued similarly:

> *"China's military is also assembling a set of capabilities designed to avoid or offset traditional US advantages. This is sometimes referred to as a high-end asymmetric threat. […] Beijing has fielded an array of advanced jet aircraft, anti-aircraft missiles, radar, anti-air and anti-submarine ships, and minelayers intended to deny US air and naval forces access to Chinese skies and waters."[1173]*

While most of the authors copied statements made by Air Force officials or CSBA studies, others even suggested a prominent departure from the COIN-centered conflicts still going on in Iraq and Afghanistan. Daniel L. Haulman, a historian at the *Air Force Historical Research Agency*, expressed his displeasure for COIN in naming this type of conflict an aberration:

[1169] From the Russian Рекогносцировочно-ударный комплекс, Reconnaissance-strike Complex, see chapter 2.2.
[1170] Watts, The Maturing Revolution in Military Affairs, p. 12.
[1171] Greenert, Jonathan W. / Schwartz, Norton A.: Air-Sea Battle – Promoting Stability in an Era of Uncertainty February 20, 2012, source: the-american-interest.com, accessed 04/08/2015.
[1172] Schanz, Marc V.: Afghanistan and after, in: Air Force Magazine, April 2011, p. 22-28, here p. 24.
[1173] Halloran, Richard: China Turns Up the Heat, in: Air Force Magazine, April 2010, p. 34-37, here p. 34.

> *"The total absence of aerial combat so far in the 21st century has led some to claim that its day is gone forever, that expensive air superiority fighters and highly trained pilots are no longer necessary. This view is almost certainly wrong. Why has air combat not played a role in the wars in Afghanistan or Iraq? The answer: Those wars were aberrations. War in the future probably will once again require the US to fight for air dominance – and not enjoy it from the beginning. The first aberration occurred in Afghanistan."*[1174]

Haulman then again argued that future opponents would have more *conventional* capabilities than the foes the United States fought in the recent years: *"Future wars might well involve opponents with much more powerful air forces than those of Afghanistan and Iraq. Former enemies such as China and Russia, for example, are currently developing fifth generation fighter aircraft with stealth technology. Air forces with such technology might challenge US control of the skies over battlefields."*[1175] Adam J. Hebert wrote then in a similar fashion in the Air Force Magazine: *"The Pentagon has been preoccupied with manpower-intensive land wars, but it is time to think about what comes next."*[1176] And he as well brought up the PRC among two other nations as potential opponents: *"Planning for China, Iran, North Korea, and such was derided as 'next-war-it is' during a decade of land war domination. These threats will now get the attention they deserve."*[1177]

The CSBA terms and statements were as well brought into the *Air Force Magazine* by John A. Tirpak. First the technological problems posed by PGM and advanced IADS: *"Anti-access and area-denial technologies and techniques – ranging from advanced air defenses to longer ranged, more precise tactical ballistic missiles that can be retargeted in-flight – are having a 'disruptive' effect on the paradigm, and the US will have to adapt."*[1178] Then the demise of the United States' edge in space-based systems: *"Enemies will not only have more means to keep the US at bay, but through cyber warfare and the widespread availability of commercial reconnaissance satellites, will deprive the US of much of its ability to act with surprise."*[1179] And then Tirpak as well suggested to train without all the technological gadgets the United States relies upon: *"Such training now stresses units by jamming their access to Global Positioning System information, with reduced input from certain elements of the ISR network,*

[1174] Haulman, Daniel L.: Aberrations in Iraq and Afghanistan, in: Air Force Magazine, August 2012, p. 44-48, here p. 46.
[1175] Ibid. p. 48.
[1176] Hebert, Adam J.: Beyond the Ground Wars, in: Air Force Magazine, February 2012, p. 4.
[1177] Ibid.
[1178] Tirpak, John A.: Global Power on a Budget, in: Air Force Magazine, January 2012, p. 26-30, here p. 29.
[1179] Ibid.

a more vigorous and modern 'enemy', and tougher air defenses."[1180] Richard Halloran would also show how the United States would first be on the defensive, subconsciously supporting the idea of a new Pearl Harbor: *"If the Chinese attack, AirSea Battle would have US forces begin an active defense, disperse aircraft and ships, and rely on hardening and resilience to ride out and to recover from the assault."*[1181] Halloran interestingly, perhaps unconsciously, used the *Active Defense* to describe how the United States should cope with the PRC. But he seemed not to use it corresponding to its historical meaning. And he as well wrote about the second phase the concept laid out: *"Gradually, the US would gain the initiative in the air, on the sea's surface, and in the undersea domain, relying on the better quality of US aircraft, ships, and submarines and the superior training of airmen, sailors, and submariners."*[1182] The scenario with the PRC attacking first and the United States defending as well was a departure from the Bush administration's preemptive doctrine – somehow as well stressing the legitimacy of the United States' efforts in the Pacific. Therefore, it was legitimate to plan for a counteroffensive against an attacker, who wanted to lock the United States out of the Pacific. As Robert S. Dudney wrote: *"The interlocking power of modern fighters, dense air defenses, and devastating attacks on air bases, combined with capabilities to strike at US cyber and space systems, threatens US land and sea-based airpower with 'lockout' from the western Pacific."*[1183]

Technological edge

As Marc V. Schanz writes, *"potential adversaries, such as China, have made broad investments in technology specifically designed to challenge US access in areas such as the western Pacific. New tools such as advanced fighter aircraft, ballistic missiles, a growing blue water Navy, and advanced space capabilities are all designed to thwart traditional American military advantages."*[1184] Richard Halloran as well touted the PRC's efforts to prevent the United States from intervening: *"The Chinese are fielding an array of advanced jet aircraft, anti-aircraft missiles, radar, anti-air and anti-submarine ships, and minelayers intended to deny US air and naval forces access to Chinese skies and nearby waters."*[1185] The PRC and its

[1180] Tirpak, John A.: Evolving the 21st Century Air Force, in: Air Force Magazine, November 2012, p. 36-42, here p. 39.
[1181] Halloran, Richard: AirSea Battle, in: Air Force Magazine, August 2010, p. 44-48, here p. 48.
[1182] Ibid.
[1183] Dudney, Robert S.: The China Gap, in: Air Force Magazine, August 2010, p. 2.
[1184] Schanz, Marc V.: AirSea Battle's Turbulent Year, in: Air Force Magazine, October 2011, p. 31-35, here p. 32.
[1185] Halloran, AirSea Battle, p. 46.

People's Liberation Army Air Force' (PLAAF) intention, respectively, would then be to push United States forces' out of the so-called second island chain, a geographical reference: *"The PLAAF's third, and newest, core mission is to acquire the capability to project power into the South China Sea and the Pacific Ocean to what the Chinese call the second island chain. This island chain runs through Andersen Air Force Base on Guam to Japan, where USAF has bases at Kadena, Yokota, and Misawa."*[1186] And Wade S. Karren wrote in the *Air & Space Power Journal*: *"China continues to add to its stockpiles each year, creating a lethal engagement zone for US fighter and bomber crews well outside the first island chain."*[1187] With these statements the factual basis for procurement of advanced weapons systems such as the *F-35 Joint Strike Fighter* (JSF) as well as the LRS-B were laid out continuously. Adam B. Lowther, a research professor at the *Air Force Research Institute* (AFRI), and John F. Farrell, associate professor and chair for *Warfare and Profession of Arms* at *Air University's Squadron Officer College*, argued for systems to defeat the *anti-access* threat: *"As China, Iran, and other possible adversaries extend the range of their antiaircraft defenses, the Air Force must be able to defeat these systems or face a world of highly contested global commons."*[1188] Marc V. Schanz similarly suggested relying on naval and Air Force systems: *"AirSea Battle, in whatever form it finally emerges, will rely heavily on warships and long-range airpower. ASB is born out of a need for the US military to address perceived threats and strategic concerns across the globe, in environments far different from the two largely 'low intensity' wars fought over the last decade."*[1189] And Schanz also suggested *access* as a key factor: *"Since there are no permanent bases in Southeast Asia, access will remain a key factor in the Pentagon's future cooperation efforts."*[1190] *Access* thereby seemingly meaning mainly Airpower and naval assets. The *terminus access* had already been brought into the discourse on warfare earlier, but only now regarding *AirSea Battle* it gained much more momentum. With it, not the *precise* destruction of the enemy through *"firepower"* was in the foreground, but more the accessibility of the enemy's home grounds to be able to strike him at all counted. Major Wade S. Karren from AFGSC proposed that the bombers today in service

[1186] Halloran, Richard: A Revolution for China's Air Force, in: Air Force Magazine, February 2012, p. 44-48, here p. 47.
[1187] Karren, Wade S.: Long-Range Strike – The Bedrock of Deterrence and America's Strategic Advantage, in: Air & Space Power Journal, May-June 2012, p. 70-81, here p. 76.
[1188] Farrell, John F. / Lowther, Adam B.: From the Air – Rediscovering Our Raison D'être, in: Air & Space Power Journal, July-August 2012, p. 61-102, here p. 80.
[1189] Schanz, AirSea Battle's Turbulent Year, p. 31.
[1190] Schanz, Marc V.: A SEA Change, in: Air Force Magazine, July 2012, p. 22-27, here p. 27.

would not suffice to penetrate the Chinese IADS and lamented: *"A lack of commitment to modernize and sustain these aircraft will impair our ability to bring wars to a quick end, will expose US forces to unnecessary risks as they seek to establish air superiority, and could threaten our national security objectives."*[1191]

But while the general Airpower proponents demanded to invest in more modern aircraft, Barry D. Watts' 2011 RMA study concluded: *"The advantages of stealth – understood as mission planning and tactics plus low-observable platform signatures – may be eroded by advances in sensors and surface-to-air missile systems, especially for manned strike platforms operating inside defended airspace."*[1192] Nonetheless, Adam B. Lowther and John F. Farrell wrote: *"Although some individuals have speculated that advances in radar detection and tracking will soon compromise the stealth capability of current aircraft, senior DOD decision makers appear confident that weapon systems such as the F-35 can continue to leverage technological advantages in defeating enemy detection systems."*[1193] And John A. Tirpak still supported the idea of a *Stealth* bomber penetrating into modern IADS: *"Thus, penetrating enemy airspace, for example, might involve a stealthy air vehicle supported by separate jamming aircraft, defense suppression aircraft, off-board sensor systems, and the like, most of them flexibly autonomous vehicles."*[1194] The Airpower discourse therefore still relied heavily on the technological possibilities as a solution to the problem described in *AirSea Battle*. New doctrinal ideas would be sparse to find at all. John A. Tirpak was sure that *AirSea Battle* would help the United States prevail: *"To deal with adversaries possessing the latest anti-access, area-denial measures, concepts like AirSea Battle will be essential to prevail against modernized foes."*[1195] But in the end, *AirSea Battle* was nothing more than an idea filled with technological means or it was perhaps even only a technological idea at all, part of the propaganda machinery the Air Force together with the Navy and the industry used to secure funds for overly pricey projects such as the JSF, the LRS-B or the Navy's submarines and aircraft carriers. With *AirSea Battle* the discourse on the role of technology got more in the foreground again compared to the COIN discussions going on in the years before, where technology and its *"effectiveness"* was called into question.

[1191] Karren, Wade S.: Lightning Strikes and Thunder Claps – The Strategic Bomber and Air Superiority, in: Air & Space Power Journal, November-December 2012, p. 137-145, here p. 144.
[1192] Watts, Barry D.: The Maturing Revolution in Military Affairs, Center for Strategic and Budgetary Assessments, 2011, p. 14.
[1193] Farrell, / Lowther, From the Air, p. 68-69.
[1194] Tirpak, John A.: Over the Horizons, in: Air Force Magazine, January 2011, p. 34-38, here p. 38.
[1195] Tirpak, Global Power on a Budget, p. 29.

Frederick Kagan states in *The Transformation of American Military Policy* that many of the technologies developed in the realm of the RMA (such as NCW) would be very helpful in the fight against a *near peer* or *peer* state. But other parts of RMA or EBO theories would be difficult to achieve. Kagan argued that the United States would not be able to reliably destroy Chinese strategic *centers of gravity* and could not *Shock and Awe* the PRC into submissiveness.[1196] There would possibly be too many *centers of* gravity, or they would be difficult to hit at all, or to discern at first. Kagan even suggests that possibly the PRC would be better at implementing the lessons learned from *"modern wars"*: *"The U.S. would not be the first country to revolutionize warfare initially only to lose ultimately to a state that built more effectively on the revolutionary ideas over time."*[1197] The PRC has been working for years on systems to deny the United States access to Chinese territorial waters and airspace, being able to analyze the United States' successes and problems encountered over the past 20 years.[1198]

While discussions were going on about *AirSea Battle*, the United States supported its European and Arab allies in an intervention in Libya, Operation *Unified Protector* (OUP).

Operation Unified Protector and AFDD 1, 2011

The United States only committed its forces for initial attacks, including strategic bombers, then it did only contribute important niche capabilities such as aerial refueling, *Combat Search and Rescue* (CSAR) or ISR to the campaign which led to the ousting and death of Libyan Dictator Muammar al-Gaddafi. While at the time of writing Libya is amidst turmoil and civil war, the Operation was dubbed successful by Air Force proponents in early 2012. Erica D. Borghard and Costantino Pischedda, both Ph.D. candidates in Political Science at *Columbia University* wrote in *Parameters*: *"The Libyan intervention exploited the synergy of precision airstrikes and local allies fighting on the ground, making the deployment of foreign ground forces unnecessary"*[1199] at least if one does not count SOF. And the authors suggested that the United States would in the near future farther intervene by Airpower and support others doing the dirty work on the ground: *"As the United States tires of fighting drawn-out, troop-intensive wars such as Iraq and Afghanistan, future interventions are likely*

[1196] Kagan, Finding the Target, p. 376.
[1197] Ibid. p. 391.
[1198] Ibid. p. 390.
[1199] Borghard, Erica D. / Pischedda, Costantino: Allies and Airpower in Libya, in: Parameters, Spring 2012, p. 63-74, here p. 63.

to mimic the Libyan experience."[1200] Amitai Etzioni, a professor of international relations at George Washington University, on the other side argued in Military Review that, again, Landpower in the form of rebel forces was necessary to topple Gaddafi: *"Airpower did not render ground combat irrelevant; in fact, the war was ultimately won through a rebel ground offensive, enabled by the gradual weakening of Qaddafi's forces through the use of airpower."*[1201] Etzioni then further wrote how the popular Afghanistan combination of SOF, Airpower and indigenous forces had been put to use successfully: *"The Libya campaign showed that a strategy previously advocated for other countries, particularly Afghanistan, could work effectively. The strategy […] entails using airpower, drones, Special Forces, the CIA, and, crucially, working with native forces rather than committing American and allied conventional ground forces."*[1202]

While OUP had again shown that Airpower could lead to conflict termination or a clear military victory on the ground in combination with Landpower only, the Air Force in late 2011 released another new version of its *Doctrine Document 1*. Officially, OUP was had been concluded at this time. But it does not seem as it had any particular influence on the new AFDD. The Air Force certainly had to release a new doctrine document after eight years. While AFDD *1*, 2011 was similarly looking as its predecessor, it sported an entirely new chapter on Airpower, referencing as well to the *airmindendess*. This edition as well for the first time included IW, differing it from *traditional* war. But it referred to the AFDD *3-24*, *Irregular Warfare*,[1203] and did only devote one page [!] to the discussion on IW. AirSea *Battle* looked for sure like the perfect occasion to promote Airpower again, also internally in the Air Force. The document therefore referenced to the *anti-access* problem: *"Adversary anti-access capabilities will continue to improve, challenging our ability to project power and influence. The spread of increasingly effective surface-to-air defenses poses special problems for our Air Force."*[1204] Still most of the main statements can be found, derived from EBO parlance:

> *"Airpower can simultaneously strike directly at the adversary's centers of gravity, vital centers, critical vulnerabilities, and strategy. Airpower's ability to strike the enemy*

[1200] Borghard / Pischedda, Allies and Airpower in Libya, p. 64.
[1201] Ibid. p. 69.
[1202] Etzioni, Amitai: The Lessons of Libya, in: Military Review, January-February 2012, p. 45-54, here p. 46.
[1203] Actually, the new document would be dubbed Air Force Doctrine Document 3-2, Irregular Warfare and be released on15 March 2013.
[1204] United States Air Force: Air Force Doctrine Document 1, 14 October 2011, p. ix.

rapidly and unexpectedly across all of these critical points adds a significant impact to an enemy's will in addition to the physical blow. This capability allows airpower to achieve effects well beyond the tactical effects of individual actions, at a tempo that disrupts the adversary's decision cycle."[1205]

Boyd's decision cycle still loomed large in the argumentation of the Air Force. But even as *centers of gravity* and the term *"effects"* are used, EBO as a whole concept did not resurface again. Still, openly referring to the downsides of recent operations in Iraq and Afghanistan, the authors suggest that

"a surface-centric strategy often seeks its outcome through the destruction of hostile land forces and the occupation of territory. However, destruction of hostile land forces may be only a tactical or operational objective and may not achieve the desired strategic outcome. Further, territorial occupation, with its attendant large cultural footprint, may not be feasible or politically acceptable."[1206]

Thus, this 2011 AFDD *1* was wholly in line with earlier suggestions that Landpower would alienate an indigenous population, on one side, and cost too much politically and in casualties. While not naming *AirSea Battle* or overly focusing on the *anti-access* scenario, the document focused on the same Airpower specialties as its predecessors had done:

"When combined with stealth technologies, airpower today can provide shock and surprise without unnecessarily exposing friendly forces. To destroy a single target, we no longer need the thousand-plane bomber raids of World War II or the hundreds of sorties of Vietnam. Today's air forces can provide accurate and assured destruction of vital targets with far fewer aircraft, sometimes multiple targets with a single aircraft."[1207]

One of the main capabilities the Air Force touted during the late 1990s got again more importance regarding the suggested *AirSea Battle* scenarios: *"Global Precision Attack is the ability to hold at risk or strike rapidly and persistently, with a wide range of munitions, any target and to create swift, decisive, and precise effects across multiple domains."*[1208] Whereas earlier, the Air Force could just sport *Global Attack*, now it could even muster *Global Precision Attack*, one of the purported main capabilities necessary to attack the military capabilities of a *peer* or *near peer* opponent.

[1205] AFDD 1, 2011, p. 14.
[1206] Ibid. p. 16.
[1207] Ibid. p. 17.
[1208] Ibid. p. 48f.

While *AirSea Battle* did not make it into the 2011 AFDD *1*, several other official documents used the concept during the early 2010s. The *Capstone Concept for Joint Operations: Joint Force 2020*, released by the *Joint Chiefs of Staff* in late 2012, put the whole problem in one overarching statement:

> *"The diffusion of advanced technology in the global economy means that middleweight militaries and non-state actors can now muster weaponry once available only to superpowers. The proliferation of cyber and space weapons, precision munitions, ballistic missiles, and anti-access and area denial capabilities will grant more adversaries the ability to inflict devastating losses. These threats place our access to the global commons at risk, target our forces as they deploy to the operational area, and can even threaten forces at their points of origin. Meanwhile, adversaries continue to explore asymmetric ways to employ both crude and advanced technology to exploit U.S. vulnerabilities. Consequently, the capability advantage that U.S. forces have had over many potential adversaries may narrow in the future. Adversaries will not only have more advanced capabilities in every domain. More of them will have the ability to simultaneously fight across multiple domains."*[1209]

Obviously, the authors did portray their unconscious and paranoid perception that they could lose their advantages, their superiority. While this paragraph displayed as well a short synopsis of the *anti-access* concept, the *Joint Operational Access Concept* (JOAC), which was published by the *Department of Defense* in January 2012, did then give some guidance on how to cope with the threat in a *joint* fashion. As the United States Forces' could be attacked from far away and even in their garrisons in the Western Pacific in the case of a conflict with the PRC,

> *"this concept envisions that future joint forces will organize tactically into tailored joint formations able to deploy, operate, and survive autonomously. For land forces especially, this suggests smaller units and platforms that are rapidly deployable yet lethal. This concept sees deployment and combat as a single evolution of parallel actions rather than as distinct and sequential phases."*[1210]

The *parallel* aspect focuses substantially more on Airpower and less on Landpower: *"The air is another domain generally suitable for the early focus of effort, again because air forces*

[1209] Joint Chiefs of Staff: Capstone Concept for Joint Operations: Joint Force 2020, Washington D.C., 10 September 2012, p. 2.
[1210] Joint Force 2020, 2012, p. 21.

tend not to operate in massed formations that make them vulnerable to catastrophic loss and because they tend to be broadly effective in bringing power to bear rapidly against other domains."[1211] Landpower *"masses"* were not desired, again. And the concept further described why then Landpower would have more a supporting role, going in last:

> *"In contrast, large land forces generally will be the last to penetrate within range of an enemy's antiaccess and area-denial weapons because of the potential for catastrophic loss. That is not irrevocably true however. Land forces, for example, could be used to seize advanced bases on the outskirts of an enemy's defenses from which to project air and naval power into the heart of those defenses."*[1212]

The expression *"advanced bases"* suggests that the concept was almost exclusively thought to be applied to a conflict with the PRC. Smaller units on the ground and mainly Airpower should battle the *anti-access* threat: *"Rather, by using the asymmetrical advantages and cross-domain synergy described above, future joint forces will open limited pockets or corridors of superiority in the necessary domains and maintain them long enough to accomplish required tasks."*[1213] A last in this series of official documents, a summary of the *AirSea Battle* concept released by the now defunct *AirSea Battle Office*[1214], then suggested that "*the ASB [AirSea Battle] Concept's solution to the A2/AD challenge in the global commons is to develop networked, integrated forces capable of attack-in-depth to disrupt, destroy and defeat adversary forces (NIA/D3 [Networked, Integrated, Attack-in-Depth to Disrupt, Destroy, Defeat])."*[1215] While here another *façon* and enlargement of NCW seemed to take shape, the *Deep Attack* somehow as well got back into spelling:

> *"The attack-in-depth methodology is based on adversary effects chains, or an adversary's process of finding, fixing, tracking, targeting, engaging and assessing an attack on U.S. forces. Attack-in-depth is offensive and defensive fires, maneuver, and command and control with the objective of disrupting, destroying, or defeating an adversary's A2/AD capabilities, conducted across domains in time, space, purpose, and*

[1211] Joint Force 2020, 2012, p. 22.
[1212] Ibid.
[1213] Joint Operational Access Concept, p. 23.
[1214] The *AirSea Battle office* was closed in early 2015, but work is still going on for a *Joint Concept for Access and Maneuver in the Global Commons* to be presented at the end of 2015. The name *AirSea Battle* was seen as a problem because the Land portion was missing, and the concept therefore deemed to be too Air-Sea centered. Source: dodbuzz.com, accessed 04/08/2015.
[1215] Air-Sea Battle Office: Air-Sea Battle – Service Collaboration to Address Anti-Access & Area Denial Challenges, Unclassified Summary of the classified Air-Sea Battle Concept, Version 9.0, dated May 12 and the Air-Sea Battle Master Implementation Plan (FY13), dated Sep 12, Washington D.C., May 2013, p. 4.

resources. Attack-in-depth seeks to apply both kinetic and non-kinetic means to address adversary critical vulnerabilities without requiring systematic destruction of the enemy's defenses (e.g., a rollback of an adversary's integrated air defense system)."[1216]

Indeed, the *AirLand Battle* seemed conceptually to serve as a cornerstone for not only Army ideas, but as well *joint* doctrine. The "*depth"* now geographically encompassed the distances to be overcome in case of a war with the PRC, and on the other side, the whole spectrum of means available in this war, including space and cyberspace (e.g. the whole *battlespace* derived in the 1990s). Then as well the Pearl Harbor reference was only the tip of the iceberg regarding the threat assessment: The United States would, as it had been together with NATO against the Warsaw pact during the Cold War, be at a *decisive* disadvantage at first and would therefore have to cope with the PRC threat by technical means again. Seen from the outside, one could conclude that there is a huge difference between the Cold War scenario and the one proposed by the *AirSea Battle* concept: The United States would not be the defender, it would be the aggressor. But on closer consideration, *AirSea Battle* does as well see the PRC as the attacker, going after United States bases in allied territory in a similar fashion as the Warsaw Pact would have done in late 1980s imagination.

To conclude this chapter, it seems important to point at how at least the Airpower proponents obviously used their discourse to derive arguments to get away from the *stabilization operations* back to the *real* "*modern war"*: The war against a *peer* or *near-peer*. China figured hugely in the discourse beginning with *AirSea Battle*, replacing the *hydra* that the *insurgency* in Iraq had been. The *battlespace* was formed again: on one side encompassing all the technological means (to human terrain in Air Force speech!), on the other side gaining again "*depth"*, geographically in the Western Pacific. The threat was again clearly outlined, could (possibly) be analyzed and fought with the technological means. The involvement of a private and industry-related think tank which propagated a certain doctrinal concept (*AirSea Battle*) that even got into official documents looks alienating, but does not surprise considering the interconnectedness of industry, politics and military in the United States and the money that can be made of it. And, *AirSea Battle* clearly favored Airpower (beneath Naval power); it is therefore interesting to analyze now in a last chapter how Landpower could get back into the discourse on "*modern war"*.

[1216] Air-Sea Battle Office, p. 6f.

3.5 The Army and Strategic *Landpower*

With *AirSea Battle* occupying a large part of the discussions on future conflicts, the Army would after 2012 try to get back into the discourse on warfare *after* COIN. This chapter will show how the Army saw its own role in the scenario described by *AirSea Battle*, propagating Landpower quite obviously in an explicit way as a counterpart to Airpower (and Seapower of course).

Army Doctrine Reference Publication 3-0

While in 2011 the *Army Doctrine Publication 3-0* had on a few pages outlined the general principles of how the Army saw future warfare, TRADOC in 2012 then published a follow-on *Army Doctrine Reference Publication* (ADRP) 3-0. Comprising more than 70 pages, this document illustrated *Unified Land Operation* more precisely. The ADRP of course followed the path laid down by the ADP, suggesting that only Landpower could reach final results when battling an enemy:

> *"Landpower includes the ability to – Impose the Nation's will on an enemy, by force if necessary; Engage to influence, shape, prevent, and deter in an operational environment; Establish and maintain a stable environment that sets the conditions for political and economic development; […] Support and provide a base from which joint forces can influence and dominate the air and maritime domains of an operational environment."*[1217]

Whereas the first part of this citation is not that surprising, the second part envisions the Army's role in *AirSea Battle*: securing bases and infrastructure, without which neither the Air Force nor the Navy would be able to fight the *AirSea Battle*. But the Army still preferred to describe its very own special capabilities in defeating an enemy in close combat: *"Close combat is indispensable and unique to land operations. Only on land do combatants routinely and in large numbers come face-to-face with one another. It underlies most Army efforts in peace and war. When other means fail to drive enemy forces from their positions, Army forces close with and destroy or capture them."*[1218] While the Air Force or its supporters had argued against *"masses"* of ground troops, or Landpower, the Army now suggested explicitly the opposite. Of course the *hybrid* threat loomed large in the image of war shown in the

[1217] Headquarters, Department of the Army: Army Doctrine Reference Publication 3-0, Unified Land Operations, Washington, DC, May 2012, p. 1-7.
[1218] ADRP 3-0, 2012, p. 1-8.

ADRP: *"A hybrid threat is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, and/or criminal elements unified to achieve mutually benefitting effects. Hybrid threats combine regular forces governed by international law, military tradition, and custom with unregulated forces that act with no restrictions on violence or their targets."*[1219] *"Unregulated"* forces can surely be understood as a type of enemy who does not fit well into the Army's perceptions of how an enemy should behave, how it could be categorized. On top of that, the ADRP as well differentiated between threats, enemies and adversaries: *"A threat is any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland. […] When threats execute their capability to do harm to the United States, they become enemies."*[1220] So the PRC would possibly be a threat in the first line, and only become an enemy when being aggressive. Or it could be an adversary in the meantime, being potentially hostile to an ally: *"An enemy is a party identified as hostile against which the use of force is authorized. An enemy is also called a combatant and is treated as such under the law of war. An adversary is a party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged (JP 3-0)."*[1221]

To cope with the enemies as outlined above, the Army should of course again be able to rapidly deploy into other parts of the world. *Expeditionary* operations got more into the focus of the capabilities envisioned:

> *"Expeditionary capability is the ability to promptly deploy combined arms forces worldwide into any area of operations and conduct operations upon arrival. Expeditionary operations require the ability to deploy quickly with little notice, rapidly shape conditions in the operational area, and operate immediately on arrival exploiting success and consolidating tactical and operational gains. Expeditionary capabilities are more than physical attributes; they begin with a mindset that pervades the force."*[1222]

While the Army demanded an expeditionary mindset from its leaders, it as well cautioned them: *"When projecting power into a region, Army leaders may find themselves without one or more of the advantages they normally have. U.S. forces encountering new and*

[1219] ADRP 3-0, 2012, p. 1-3.
[1220] Ibid. p. 1-2.
[1221] Ibid. p. 1-2.
[1222] Ibid. p. 1-7f.

unanticipated enemy capabilities have to rapidly adapt while engaging in operations."[1223] The Army hereby indeed quite perfectly adjusted its image of war to the *AirSea Battle* realities as propagated by CSBA or the *AirSea Battle* concept, suggesting that many of the technological systems the United States relied on would be degraded in the theater it would deploy its units to. It is quite clear that these statements are fitting to the PRC threat as outlined above. But at the same time, the ADRP displayed an Army view, partially questioning the technological means the Air Force relies on as well as their functionality in case of war.

Nonetheless, even the description of the operational framework was somehow tied to *AirSea Battle*. *Deep Operations* would now encompass as well actions *"to disrupt the movement of operational reserves, for example, or prevent the enemy from employing long-range cannon, rocket, or missile fires."*[1224] But at the same time the Army retained some of the lessons it had drawn from COIN: *"In an operational environment where the enemy recruits insurgents from within a population, deep operations might focus on interfering with the recruiting process, disrupting the training of recruits, or eliminating the underlying factors that enable the enemy to recruit."*[1225] Nonetheless, the ADRP contained no notions of COIN, only referring to *Joint Publications* or FM *3-24*, which would be updated in 2014.[1226] The ambivalence of COIN lessons learned was also still visible in the description of *combined arms*. On the one hand, *combined arms* would be used destructively in a more *conventional* environment: *"Used destructively, combined arms integrate different capabilities so that counteracting one makes the enemy vulnerable to another."*[1227] On the other hand, the authors imagined a more modern fashion of *combined arms* to be applied to IW or COIN environments: *"Used constructively, combined arms multiply the effectiveness and efficiency of Army capabilities used in stability or defense support of civil authorities."*[1228] Using *combined arms "constructively"* is sounding interestingly positive. What would that mean? But then again applied to the PRC scenario, *combined arms* would help overcome *anti-access* threats: *"Combined arms maneuver causes the enemy to confront dangers faster than the enemy can respond to them. For example, in forcible entry operations, effective combined*

[1223] ADRP 3-0, 2012, p. 1-3.
[1224] Ibid. p. 1-11.
[1225] Ibid. p. 1-11.
[1226] Headquarters, Department of the Army: Field Manual 3-24 (MCWP 3-33.5), Insurgencies and Countering Insurgencies, Washington, DC, May 2014.
[1227] ADRP 3-0, 2012, p. 1-14f.
[1228] Ibid. p. 1-14f.

arms maneuver defeats antiaccess and area denial efforts, disrupting the enemy and allowing the ground force to transition rapidly to stability tasks."[1229] Being faster than the enemy was the key to success, and *"maneuver"* was again meant more geographically than mentally. While the Army did not foresee the same rapid and *decisive* operations as it had imagined in the early 2000s, some of the terms and *termini* left their traces in the ADRP, among them *Shock and Awe* and EBO: *"Commanders use maneuver for massing the effects of combat power to achieve surprise, shock, and momentum. Effective maneuver requires close coordination with fires."*[1230] Again *"maneuver"* and *"firepower"* had to be synchronized to be *effective*, to mass *"effects"*. And the *centers of gravity* as well were included, although divided between the more tangible, physical ones, and the intangible ones, the *moral centers of gravity*:

> *"Centers of gravity are not limited to military forces and can be either physical or moral. They are part of a dynamic perspective of an operational environment. Physical centers of gravity, such as a capital city or military force, are typically easier to identify, assess, and target. They can often be influenced solely by military means. In contrast, moral centers of gravity are intangible and more difficult to influence. They can include a charismatic leader, powerful ruling elite, religious tradition, tribal influence, or strong-willed populace. Military means alone usually prove ineffective when targeting moral centers of gravity. Affecting them requires the collective, integrated efforts of all instruments of national power."*[1231]

It seems to be a real accomplishment that official Army doctrine confessed how military means alone would not suffice to manipulate or affect moral *centers of gravity*, especially compared to the whole *Objective Force* thinking in the late 1990s, when LIC was rather disappointingly discussed in the FM *100-5*. But the few comments on the new doctrine which could be found mainly in Military Review were rather critical of the new doctrine publication. Major Christopher Henry, a former doctrine author for the CADD, criticized Army doctrine as lacking (before ADRP, but after ADP *3-0* had been published): *"Both Army and Marine Corps doctrine production has suffered from a lack of personnel. This shortage has been primarily due to the concentration of manpower in the operational force since the*

[1229] ADRP 3-0, 2012, p. 2-9.
[1230] Ibid. p. 3-3.
[1231] Ibid. p. 4-4.

advent of the conflicts in Iraq and Afghanistan."[1232] Henry was surely right, pondering that the Army was still mainly focused on its ongoing operations in 2012. And at the same time, the Air Force had, together with the Navy, brought a new doctrinal image with *AirSea Battle*. Major J.P. Clark, an Army strategist working in Headquarters, *Department of the Army*, went even further: *"The conceptual emptiness of Unified Land Operations suggests that the Army still lacks a compelling vision of how to operate in the next several years."*[1233] Clark as well criticized that the uncertainty which could be found in the 2009 *Capstone Concept* got away: *"Indeed, uncertainty was the central theme of the 2009 Capstone Concept, so its absence from ADP 3-0 is thus even more disappointing."*[1234] But it seems logical that with the focus given by *AirSea Battle*, the Army as well got unto the same bandwagon, adjusting its image of war to the Pacific theater as shown above. Nonetheless, Clark went even further to fault the neglect of the enemy: *"Although the opening review of the strategic context briefly identifies the nation's two most challenging enemies as a nonstate entity able to attack our public will and a nuclear-armed state partnering with nonstate actors, after that passage there is no further mention of these – or any other – enemies."*[1235] Clark was wrong insofar as the ADRP *3-0* then was meant to give more in-depth information, complementing ADP *3-0*. Colonel Bill Benson, commanding the *4th Brigade* of the *1st Cavalry Division,* was more positive towards the new doctrine: *"The authors of Unified Land Operations considered the history and evolution of the operational framework in Army doctrine as they developed the new operating concept. As a result, Unified Land Operations reintroduces many terms rescinded in 2008 and returns the AirLand Battle term supporting effort to the lexicon."*[1236] Benson then went further to identify new elements in the doctrine:

> *"The core competencies of combined arms maneuver and wide area security are the only truly new constructs within unified land operations. […] They do not represent radical departures from earlier doctrine, but rather new cognitive tools that bind existing Army operations – offense, defense, and stability – to the purpose of gaining or retaining the*

[1232] Henry, Christopher: New Doctrine Framework for the Land Component Forces, in: Military Review, January-February 2012, p. 68-73, here p. 71.
[1233] Clark, J.P.: The Missed Opportunity: A Critique of ADP 3-0, Unified Land Operations, in: Military Review, July-August 2012, p. 46-52, here p. 49.
[1234] Clark, The Missed Opportunity, p. 51.
[1235] Ibid. p. 51.
[1236] Benson, Bill: Unified Land Operations: The Evolution of Army Doctrine for Success in the 21st Century, in: Military Review, March-April 2012, p. 2-12, here p. 8.

initiative. In other words, they link the emphasis on initiative found in AirLand Battle with the operating concept described by full spectrum operations."[1237]

Indeed, as openly suggested in ADP 3-0, *Unified Land Operations* did, after *Unified Action*, display kind of a renewed self-confidence of the Army. If this was only a show regarding the budget cuts and shrinking in manpower (to between 440'000 and 450'000 by 2017), or if it was to position the Army anew among the other services, using new doctrinal ideas, remains to be seen.

While the new doctrine tried to encompass the whole spectrum of operations, other authors nevertheless cautioned that the Army should not get to far away from COIN and IW. Paul Scharre, a former infantryman who served with the *75th Ranger Regiment* in Iraq and Afghanistan, suggested in a December 2012 Military review article: *"We must revise and expand the spectrum of operations or range of military operations to cover these new threats, with irregular operations like COIN, counterterrorism, and stability operations on the 'low end' of this spectrum and counter-A2/AD concepts of operation on the 'high end.'"*[1238] Despite the primary focus of the Air Force and Navy should be A2/AD threats, Landpower would have to be as well dedicated to IW: *"Both the Army and Marine Corps must possess the ability to conduct population-centric operations to stabilize under-governed regions and build the security capacity of partner nations, while still remaining proficient at combined arms maneuver to destroy organized military forces in force-on-force conflict."*[1239] Major Phil W. Reynolds, a civil affairs officer, wrote similarly : *"The most dangerous threats to the United States are the ones for which we cannot prepare conventional responses, so it is essential that the United States develop and use irregular warfare (IW) as a deterrent that creates strategic depth."*[1240] Reynolds in fact even told the reader that the United States should itself be able to wage IW, suggesting "offensive IW" conducted by the *United States Special Operations Command* (USSOCOM). G. Scott Taylor, serving on the Army Staff at the Pentagon in G3/5/7 in the *Current Operations Division* argued in a similar way that *"unconventional warfare in the form of counterinsurgencies, terrorism, and guerilla warfare is here to stay and nostalgia for simpler forms of conventional war will not place the Army in*

[1237] Benson, Unified Land Operations, p. 11.
[1238] Scharre, Paul: Spectrum of What?, in: Military Review, November-December 2012, p. 73-79, here p. 73.
[1239] Scharre, Spectrum of What?, p. 78.
[1240] Reynolds, Phil W.: What Comes Next? An Argument for Irregular War in National Defense, in: Military Review, September-October 2012, p. 35-41, here p. 35.

the best position for what will most likely be the next conflict."[1241] Taylor contended that the Army's core competencies in fighting *conventional* wars had surely eroded over the last decade. But in his eyes nonetheless *"merely focusing on conventional fights and wishing away the types of wars the Army does not want to fight – the messy and protracted counterinsurgency fights – is potentially naïve and irresponsible."*[1242] Paul Scharre on the other side laid more weight into the *anti-access* threat: *"Conventional maneuver warfare, often labeled major combat operations, is now only a relatively small slice of the spectrum of operations. Conventional war is also not at the highest end of this spectrum of conflict, but rather in the middle. The high end features sophisticated A2/AD threats that require new U.S. capabilities and concepts of operation to counter."*[1243] Scharre therefore even wanted to have a higher intensity than *conventional high-intensity* war. And he further took on some of the arguments *AirSea Battle* proponents had brought into the discussion, seeing the United States even partially disadvantaged: *"The United States has historically been strong in the middle part of the conflict spectrum, in conventional warfare. The high end of the spectrum, counter-A2/AD operations, is new and has developed as adversaries have modernized their militaries and designed clever approaches to counter U.S. forces."*[1244] To counter *hybrid* threats, Scharre even envisioned a *hybrid* ground force, able to fight over the whole spectrum: *"A hybrid-focused ground force that could both destroy enemy forces and influence populations might be able to fight both up and down on the spectrum of conflict by performing both conventional and COIN operations."*[1245] What Scharre described therefore seemed to be a task force with a mix of heavier and lighter units, air and ground, as well as psychological, *"information"*, SOF, even cyber units. Reynolds on the other side cautioned that the United States would have to manage this kind of force sensitively: *"The U.S. military will have to walk a fine line, paying for a conventional force robust enough to deter unfriendly state actions, and yet maintaining a force that can deploy and resolve a myriad of problems posed by nonstate actors engaging in irregular warfare."*[1246] And Scott used the example of Iraq to show, that future adversaries would much more fight in an *asymmetrical* way: *"The nature of the hybrid threat and the fact that U.S. power could be challenged for so*

[1241] Taylor, G. Scott: Beyond the battlefield: Institutional Army Transformation following victory in Iraq, United States Army War College, Strategic Studies Institute, Carlisle, PA, 2012, p. 2.
[1242] Ibid. p. 8.
[1243] Scharre, Spectrum of What?, p. 73.
[1244] Ibid. p. 77.
[1245] Ibid. p. 78.
[1246] Reynolds, What Comes Next?, p. 36.

long in Iraq, very narrowly avoiding defeat, all but guarantees that future enemies will challenge us asymmetrically seeking protracted conflict over decisive battles and insurgent strategies over conventional ones."[1247]

The U.S. Army Capstone Concept

After the ADP and ADRP had been published, TRADOC followed up with a comprehensive *Capstone Concept* in winter 2012. The uncertainty lacking in the doctrine according to Major Clarke was mentioned early in the *Capstone Concept*: *"The future Army will continue to operate in a complex and uncertain environment."*[1248] But the environment at home was also described: *"In an environment of decreasing resources, the Army must plan for a shift in strategic focus while preparing to confront these threats."*[1249] Budget cuts looming at the horizon already visible were as well incorporated into Army thinking. The authors then made as well a step away from the old category thinking regarding the type of enemy to be encountered in the near future: *"Furthermore, the distinctions between threats will blur in the future due to the complexity of adversaries, the multiplicity of actors involved, and the ability of threats to adapt rapidly."*[1250] The *hybrid* threat got to the center stage, again encompassing *irregular* and *regular* facets: *"Likely adversaries will employ a combination of regular and irregular tactics and seek technologies that enable them to overcome or avoid U.S. military strengths and exploit perceived weaknesses."*[1251] And the *anti-access* threat as well got a foothold in the *Capstone Concept*:

> *"Some adversaries are investing in anti-access and area denial capabilities to counter the U.S. ability to project military force into an operational area with sufficient freedom of action to accomplish assigned missions. Adversary commanders will position forces and capabilities to support rapid precision attack against air and seaports of debarkation and interrupt the flow of logistics or follow-on forces."*[1252]

In comparison to the *AirSea Battle* concept, the *Capstone Concept* did not emphasize that much how the United States Armed Forces would be on the defensive. Army thinking saw the United States getting into the fight against a *hybrid* threat which defended itself using

[1247] Taylor, Beyond the battlefield, p. 29.
[1248] Headquarters, United States Army Training & Doctrine Command: The U.S. Army Capstone Concept, TRADOC Pamphlet 525-3-0, 19 December 2012, p. 6.
[1249] Ibid.
[1250] Ibid.
[1251] The U.S. Army Capstone Concept, 2012, p. 8.
[1252] Ibid.

asymmetric tactics and technologies to deny *access*, combining capabilities of a *peer* or *near peer* enemy as well as other elements. A March 2012 Army-Marine Corps Concept dubbed *Gaining and Maintaining Access*, accordingly contended, that the defeat of *anti-access* capabilities would primarily be accomplished through air, maritime, space and cyberspace operations. But at the same time the authors argued that *"U.S. Army and Marine Corps forces can control terrain and the associated population. They ensure that access can be maintained by making persistent or extending in duration the effects created by other elements of the joint force."*[1253] But Landpower would not only secure bases for air and naval assets. It would as well act offensively: *"Multiple dispersed maneuver elements will use strategic and operational maneuver via air and sea to deploy and employ from the global system of main operating bases, forward operating sites, cooperative security locations, and amphibious and other sea-based platforms to conduct operations in the objective area."*[1254] Dispersed units would make it more difficult for the enemy to defend itself: *"By requiring the adversary to defend a vast area against our mobility and deep power projection capabilities, maneuver is expected to render some of the adversary force irrelevant while exploiting the seams and gaps created in his defensive disposition."*[1255] Interestingly, the authors used the very same image of exploiting units that the authors of *AirLand Battle* had used to depict Soviet OMGs attacking NATO lines in Germany at that time. And now *"maneuver"* got its own part, being an instrument itself without *"firepower"*. But different from *AirLand Battle*, the United States Army and Marine Corps would be on the offensive, obviously attacking into areas held by *peer* or *near peer* nations. And the concept even proposed different roles for Army as well as Marine Corps units:

> *"Although they are employed in an integrated fashion, entry forces may be conceptually divided into two broad categories: assault forces and follow-on forces. Assault forces take three complementary forms: Marine air-ground task forces (MAGTFs) operating from ships at sea; Army airborne forces delivered by intertheater or intratheater airlift; and Army air assault forces operating from intermediate staging bases (ISBs) within the theater. Follow-on forces, when required, may arrive via airlift, sealift, or various combinations thereof. Traditionally, follow-on forces have included heavier units whose*

[1253] United States Army, Capabilities Integration Center / United States Marine Corps, Marine Corps Combat Development Command: Gaining and Maintaining Access: An Army-Marine Corps Concept, Ver. 1.0 March 2012, p. 6.
[1254] Ibid. p. 7.
[1255] Ibid. p. 8.

offload is dependent upon infrastructure that has been seized intact/quickly repaired, or expeditionary facilities that have been established."[1256]

Thereby the authors killed two birds with one stone; they secured the fielding of heavy Army units as well as the Marine Corps capabilities, displaying their thorough techno-centric operational thinking. Getting far away from COIN and back to conventional war, both the Army and the Marine Corps showed off how they were still prisoners of their very own discourse on Landpower. As a follow-up, Marine Corps *Commandant* James F. Amos, USSOCOM commanding officer, Admiral William H. McRaven and Army *Chief of Staff* Raymond Odierno published a *joint* paper called *Strategic Landpower – Winning the Clash of Wills* in May 2013, defending their respective services' idea of future conflict. The title says it all: conflict is still about *"wills"*, forcing the enemy to surrender. Therefore, the paper stated that even as technology seemed to be the solution to the *anti-access* problem, the *human terrain* or *domain* was indispensable, and Landpower was there to win in this sphere of operations:

"Land operations have a uniquely significant role in both peacetime and conflict, in addressing human factors. This assertion rises from the recognition that: 1) the Army, Marine Corps, and Special Operations Forces significantly contribute to the activities central to influencing the 'human domain' short of war, such as peacekeeping, comprehensive military engagement, security force assistance, building partner capacity, and stability operations; 2) in conflict, the same forces are those most intimately and closely involved with the human networks – friendly, enemy, and neutral – that comprise the 'human domain'; and 3) strategic success or failure most often occurs within the land domain, especially in the shared space between humans and the cyberspace domain."[1257]

Not only can the *human terrain* be found again in this statement, part of COIN speech; but most importantly, the *land domain* was the place where success could only be obtained. The paper as well contained statements regarding the challenges allegedly presented by the PRC. When tensions would mount, many of the nations threatened by the PRC's behavior would be looking to the United States to balance the growing Chinese military power in the region: *"The Air Force and Navy obviously have a crucial role in this arena, both as a deterrent to aggression and in military engagement. Still, those efforts must be complemented by*

[1256] Gaining and Maintaining Access, 2012, p. 8.
[1257] Amos, James F. / McRaven, William H. / Odierno, Raymond: Strategic Landpower – Winning the Clash of Wills, May 1, 2013, p. 3.

forward engaged and creatively employed soldiers, Marines, and Special Operations Forces, as it signals a high level of American commitment to its partners and allies."[1258] Indeed the United States would rather quickly begin to rotate its Army units trough exercises all over the Western Pacific. And the efforts of the Army and Marine Corps seemed to bear fruit when the *Joint Chiefs of Staff* in April 2014 published its *Joint Concept for Entry operations*. *Entry* was the new counter-buzzword versus the *anti-access* threat, representing the obviously aggressive stance the United States displays again and again against anyone trying to prevent it from intervening: *"Entry forces will envelop, infiltrate and penetrate in and/or across multiple domains at select points of entry to place the enemy at an operational disadvantage."*[1259] Now not only air and naval forces would fight *AirSea Battle*, but the *joint force* would: *"By exploiting the sea and the air as maneuver spaces, the Joint Force will be able to threaten a greater number of the adversary's critical assets as well as increase the unpredictability of the force."*[1260] To facilitate entry into the PRC's reach (what seems obvious), *"forces must be able to disperse to seize key terrain or for self-preservation, and to concentrate rapidly to exploit opportunity."*[1261] Reading through these statements the image forms of United States forces in the Western pacific huddled on their small bases in the second island chain, sitting out massive ballistic missile barrages as described in the *AirSea Battle* concept papers. *Chief of Staff of the Army*, Raymond T. Odierno, had already in late 2012 at an AUSA meeting told his audience that rapidly massing dispersed small units would be the key in future warfare:

> *"In total, our modernization efforts will prepare the entire Force for the complex and uncertain battlefield by putting Squads with precise information and overmatch capability at the decisive time and place to achieve dominance of the operational environment. At the same time, we must preserve the ability to reassemble our Forces rapidly, building the mass necessary to decisively defeat a determined enemy. In pursuing these goals, we ensure that we remain an Army capable of many missions, at many speeds, under many conditions."*[1262]

[1258] Amos / McRaven / Odierno, Strategic Landpower – Winning the Clash of Wills, p. 7.
[1259] Joint Chiefs of Staff: Joint Concept for Entry operations, Washington D.C., 7 April 2014, p. 19.
[1260] Ibid. p. 19.
[1261] Ibid. p. 20.
[1262] Odierno, Raymond T.: CSA Remarks at AUSA Eisenhower Luncheon (As Delivered), October 23, 2012, source: army.mil, accessed 04/08/2015.

The experienced reader will remember where similar statements were already part of the Army's doctrine: in the early 1950s, when all services prepared to fight on a *Massive Retaliation's atomic battlefield*, the Army would as well want to have its dispersed units massing quickly, but after nuclear strikes: *"Plans provide for immediate movement through or around the target area. Exploiting units remain dispersed until the critical moment, then concentrate rapidly, and move to the decisive point to take maximum advantage of surprise and the enemy's disorganization."*[1263] And then in the late 1980s in the scope of *AirLand Battle Future* the Army as well imagined smaller units massing from dispersed fighting positions on the geographically larger battlefield, as R. Roger Wolf described in a 1990 memo to TRADOC commanders and key staff officers: "*Available forces must be dispersed […] and then when required, quickly mass and move forward."*[1264] Another example came from a 1988 CAC pamphlet: *"Battlefield of the 21st century – Non-linear – Poorly defined FEBAs and rear areas – Units at risk throughout battlefield – Numerous, small, independent but coordinated battles throughout theater."*[1265] The similarity of the images of war as displayed by documents having been written 30 and 60 years ago, respectively, is showing how doctrine thinking in the United States Army is somewhat cyclical. To conclude this study and get back to the immediate present, one can take a look at the *United States Army Operating Concept* published in 2014. Not only would Army forces achieve surprise through maneuver across strategic distances and arrival at unexpected locations – to strike the enemy from unexpected directions. They would as well disperse and concentrate rapidly: *"In high anti-access and area denial environments, dispersion allows future Army forces to evade enemy attacks, deceive the enemy, and achieve surprise. Even when operating dispersed, mobile combined arms teams are able to concentrate rapidly to isolate the enemy, attack critical enemy assets, and seize upon fleeting opportunities."*[1266] The *Operating Concept* as well referenced to the most recent conflicts:

> *"Russian annexation of the Crimean Peninsula and use of conventional and unconventional land forces in Ukraine suggest that Russia is determined to expand its territory and assert its power on the Eurasian landmass. Russia deployed and integrated*

[1263] Headquarters, Department of the Army: Field Manual 100-5, Operations, Washington, DC, 1954, p. 96.
[1264] Wolfe, R. Roger: ALB-F: an evolving concept, MEMO TO: TRADOC Commanders and Key Staff Officers, 1 March 1990, p. 5.
[1265] United States Army Combined Arms Center: AirLand Battle Future, 1988.
[1266] Headquarters, United States Army Training & Doctrine Command: The United States Army Operating Concept, Win in a Complex World, 2020-2040, TRADOC Pamphlet 525-3-1, 7 October 2014, p. 16.

> *a range of diplomatic, information, military, and economic means to conduct what some analysts have described as "non-linear" operations. […] Russia's actions highlight the value of land forces to deter conflict as well as special operations and conventional force capability to project national power and exert influence in political contests."*[1267]

While the *non-linear operations* can be traced back to *AirLand Battle*, it seems unclear to the reader how exactly Landpower would have prevented Russia from taking Crimea. There had been Ukrainian ground forces on the peninsula, but they were taken out of the fight early on, losing communications and being surprised by *unconventional* tactics and *irregular* forces: by a *hybrid* threat according to Army doctrine. While ISIL would be mentioned as well, Chinese capabilities still took to the center stage:

> *"China works to negate U.S. advantages in space and cyberspace. China is developing significant anti-satellite capabilities, integrating cyber into all aspects of military operations, and developing sophisticated missiles and air defenses as part of an effort to challenge United States' ability to project power. Chinese doctrine calls for combining conventional and unconventional actions."*[1268]

This last statement again reiterates all the arguments brought by the *AirSea Battle* proponents: The A2/AD as a whole, deployed by the PRC. Additionally, the *hybrid* nature of the PRC's answer to the United States' *Way of War* was represented by the *conventional*/*unconventional* mix.

3.6 Interim conclusion: *back to the roots* all over again?

While these last papers analyzed lead this thesis into the immediate present, they show as well how again an image of war, or, of an enemy, respectively, had been constructed and used to justify doctrine and procurement. While some would have argued, a few years before, that the wars in Iraq and Afghanistan had indeed generated a radical *Transformation* in military thought, a paradigm shift from idealized, techno-centric, scientific formulas – such as NCW and EBO – to more complex, ambiguous, and human-centered visions of war, which were then represented by the COIN FM *3-24*[1269], it seems appropriate to remark how again another, more technological image of war was induced into Army and especially Air Force thinking by the *Pacific Pivot* and *AirSea Battle*.

[1267] The United States Army Operating Concept, 2020-2040, 2014, p. 11.
[1268] Ibid. p. 11.
[1269] Linn, The U.S. Armed Forces' View of War, p. 42.

In the discourse on warfare, the EBO/NCW proponents had been, especially in hindsight, very unimaginative in forecasting the consequences of their theories and visions regarding future warfare. The central problem of the EBO/NCW idea of war – that the United States' war objectives would be restricted to destroying the armed forces of a centralized nation-state – was already apparent from the very beginning. The *Transformation* advocates only considered *"effects"* in the most immediate military and therefore mostly *kinetic* meaning. They did not imagine the long-term impacts of the loss of control produced by *Shock and Awe* in states that were coercive dictatorships (Iraq) or fragile tribal alliances (Afghanistan), the failed states the national security strategy consistently identified as the most likely areas of conflict. Neither did the *Transformation* enthusiasts foresee the consequence of creating Armed Forces that were organized, equipped, and trained exclusively for *rapid, decisive operations*. In this respect the *Transformation* proponents have to be blamed for not considering that if EBO/NCW did not lead to success as promised, *"the most likely result would be the very long, bloody, frustrating attritional struggles they claimed their approach would avoid"* as Linn writes.[1270] The *Transformation* enthusiasts seem to have divorced their theories both from history and from reality at the time. Their main theories – based on neo-Marxist views of history – would be proven wrong in Afghanistan and Iraq; especially the *system* idea. And in their attempts to rescue their programs from absolute irrelevance after the 9/11 attacks, *"they have so diluted the meaning of transformation as to render the concept useless. They may even succeed unintentionally in discrediting the notion of transformation completely"*, as the idea of transforming the United States Armed Forces to adapt them to changing environments and challenges does not seem to be that absurd at all.[1271]

As the Army changed their image of war, their vision of Landpower, from the *Transformation's rapid and decisive*, technological style of warfare to a more realistic vision, letting the *Objective Force* behind, the Air Force vision of war has been rather less changed by Iraq and Afghanistan. Though Airpower proponents repeatedly pointed to their contributions to COIN, they remained committed to the concepts they formulated in the 1990s, maintaining the central tenets that the discourse on Airpower comprised. Some voices even used the word *aberration* to describe the sort of conflict which did not fit that

[1270] Linn, The U.S. Armed Forces' View of War, p. 46f.
[1271] Kagan, Finding the Target, p. 3913.

well into their image of war, or into their discourse on war. Central to the Air Force was the same assumption held in the 1990s; that is, if it gets the most modern means (capabilities), then the ends (strategy) will sort themselves out. From this assumption, the Air Force as an institution seemed always to look first to technology, then to concepts that would allow its application, the last of which was *AirSea Battle*.[1272] At the same time, Airpower enthusiasts brought back again and again the notion that their perspective was *"elevated"* and that their airmen, flying above the battlefield, were less under stress than the soldiers on the ground and therefore better able to fight the complicated COIN war.

But the realization that, because of the United States' success in embracing the RMA, it was in fact losing its military edge, led to some kind of panicking, at least in the Air Force and Navy. In the discourse on the enemy, adversaries were now themselves acquiring PGMs, as well as the vital supporting capabilities needed to wage *"precision"* warfare, including commercial sources of imagery, *"precision"* navigation and timing. And that vision was then translated into a modern version of Pearl Harbor, justifying NCW and RMA technologies once more.[1273] But on the other side, reality was as well more uncomfortable: future adversaries would seek to deny the United States the ability to operate in the skies and (cyber)space with impunity, either by shooting down aircraft and UAVs or jamming communications, GPS or surveillance means. The Airpower-centered *New American Way of War* would not be that easy to apply to the PRC – as it was indeed neither applicable to Al-Qaida.[1274] The PRC indeed took on the role that the Warsaw Pact once had: somehow menacing, but on the defensive in reality. By putting the Pearl Harbor scenario to good use, the *AirSea Battle* proponents nonetheless argued that the United States would be on the defensive, as it had been with *AirLand Battle* before.

Finally, the Army began to explicitly state how Landpower as an opposite to Airpower and would enable the United States to overcome the most *"modern"* enemy in *"modern war"*. While the Air Force in scope of COIN had doubted that the Army's soldiers (and Marines) could fight and win against an enemy conducting IW, the Army would then resort again to the contest of *"wills"* after the Air Force stepped in with *AirSea Battle*. The discourse on Landpower described how only marines and soldiers could hold ground and win against a determined enemy in the *close fight*. Not only did the Air Force, the Army as well displayed a

[1272] Linn, The U.S. Armed Forces' View of War, p. 53.
[1273] Mahnken, Weapons: the precision-strike regime, p. 69.
[1274] Ibid. p. 74.

cyclical doctrine and image of war development, getting back to terms and even *termini* from *AirLand Battle*. *"Depth"* got back with the geographical vastness of the Western Pacific, being put to use by the Air Force to justify its long range and *Stealth* assets. *"Firepower"* again supported *"maneuver"*, at first. Then *"maneuver"* would, still in a geographical meaning, help Landpower to fight as well against the enemy which was at least modeled after the PRC.

While COIN brought, finally, IW and LIC into Army and Air Force doctrine, now at the end the *anti-access* threat again got the United States Armed Forces back on its technologically centered *American Way of War*. The Army and Marine Corps did stress the importance of the human dimension of war (*human terrain*). But honestly, to overcome the threat as displayed and described in *AirSea Battle* does stress the need for *high-tech* weapons again, as was the case with *AirLand Battle*. *Access* not only means the physical and geographical dimension, but as well the United States' capability to hurt its enemies at all. The United States image of war or *American Way of War* does depend on the possibility that the United States could really strike at its enemies with ease.

IV. Conclusions

Lewis argues that technology only makes killing more *efficient*, but this would never deter a determined enemy.[1275] Perhaps this would be a fitting concluding statement for this thesis, looking from the perspective of a reality check: while the study at hand analyzed the thinking, the image of war, it did as well show when the vision and therefore discourse on warfare differed from how the wars and operations fought in the real world environment were experienced. But even as there were dissenting voices in the discourses analyzed, still the United States Armed Forces fight the *American Way of War*. This circumstance is especially evident regarding the language use describing the image of war: since the Gulf War in 1991 the United States Air Force points out increasingly how airstrikes are more *efficient*, and even, less bloody, compared to the deployment of ground forces. But looking closely, at the same time the idea of killing by itself seemed only to have been made more agreeable by concepts such as EBO – *"effect"* instead of destruction or annihilation – because all those terms carry the same meaning, actually. The thesis at hand was able to show how the tendency towards a post-heroic American culture of strategy imagined a war fought through wide distances with minimal casualties.[1276] In some extreme cases then COIN operations and *persistent conflict* were dubbed aberrations, not fitting into the discourse on warfare. The *terminus operations other than war* does indeed show that fact in an exemplary way.

When *AirLand Battle* in the 1980s unmistakably was conceived to be the gigantic symphony of destruction of the Warsaw Pacts *"masses*", the technology discourse played an important role as it was the means for the defense against a seemingly superior enemy, even though factors such as initiative or morale were postulated at the same time. *"Mass"* or also *"speed"* stood representative for the gigantism which was propagated. *AirLand Battle* would then be as well one last occasion when the Air Force leadership agreed with Army doctrine because it suited its interest, having a say in doctrine development in the 1970s and 1980s, as Kretchik argues as well.[1277] After the dissolution of the USSR the United States became the sole remaining *superpower* and showed its *conventional* superiority in 1991. Operation *Desert Storm* displayed the *"effectiveness"* of PGM and *Stealth*; moreover, the Army could

[1275] Lewis, The American Culture of War, p. 378.
[1276] Tuck, Land Warfare, p. 114f.
[1277] Kretchik, U.S. Army Doctrine, p. 285.

have beaten its opposite possibly even using fewer troops, what the Air Force liked to point out repeatedly. On one side this victory strengthened the self-confidence of the military and its political influence; on the other side it enlarged the already enormous belief into technology.[1278] The introduction of new Airpower technologies and the development of new doctrines such as NCW created the illusion that wars could be fought and won quickly and cheaply (*decisive*, *"shock"*). The Airpower paradigm that emerged during World War II was still influencing decisions in Washington, even though Airpower alone has until today never proven *decisive*.[1279] Landpower advocates would then as well persistently argue that only soldiers on the ground could beat an enemy close and personal, forcing him to surrender and letting the United States imposing its *"will"* on him.

Nonetheless, the sanitized, didactic, almost mythological EBO/RMA or *Transformation* narrative has been interjected into virtually every military reform debate in the last four decades, from discussions on Army and Marine Corps doctrine to which fighters the Air Force should purchase – the most modern in the last case, for sure. RMA thinking has caused a lot of unanticipated consequences, not least the fact that it may have led some senior commanders and administration officials to repeat what historians have identified as a major mistake in the *German Way of War*: concentrating on tactics and operations while failing to consider how individually successful battles and campaigns will achieve the nation's war aims.[1280] But *Desert Storm* had as well shown to possible future adversaries what the preferred *American Way of War* was. Not only the PRC, but as well enemies who would not as well fit to the United States Armed Forces' image of war were encouraged to find other ways to beat the United States.

Operation *Desert Storm* also provided the illusion that higher command levels could control the battlefield. Even though it became clear later on, that Powell as well as Schwarzkopf had misread the situation and ended the war too quickly, the ideal of the controlled battlefield remained. The battlefield was translated into the *Non-linear Battlefield* in the scope of the *AirLand Battle*, then into *battlespace* when discussing the RMA and should then incorporate the space, too (as well as the *Cyberspace*). In the end, the discourse on the battlefield brought the *teminus operating environment* for *AirSea Battle*. The multi-dimensional *information age* as a military concept featured then as well t*ermini* such as *Full Spectrum*

[1278] Lewis, The American Culture of War, p. 374.
[1279] Ibid. p. 491.
[1280] Linn, The U.S. Armed Force' View of War, p. 45.

Dominance or *Information Dominance*, somehow trying to encompass the ramifications of the application of *information age* technologies. The RMA eventually culminated in the *Transformation* concept which, thanks to new technologies, planned for smaller, more mobile, networked and deadlier units. Every soldier should have access to the same situational image *simultaneously* to outclass potential enemies on the enlarged battlefield in the area of decision-making as well as regarding the weapons *"effects"*.

"Mass" and *"speed"* are dominating terms in the language of both branches; *"speed"* was enforced by the *information age*, *"mass"* was reinterpreted. Especially the Air Force tried to bring forward masses of *"effects"* and to distance itself from the solely physical destruction of the enemy in scope of the discourse on warfare; but in reality, killing by *"firepower"* remained the core competence Airpower would be best at. Furthermore the Air Force liked to look at the enemy as a *system* with a *"brain"*, backbone or eyes. Lewis correctly criticizes this vision as being too focused on little confined (and *conventional*) wars against states; then (voluntary) nations in his eyes cannot be beaten only through *precise* attacks into their *"brain"*.[1281] And indeed, both OIF in Iraq and OEF in Afghanistan would not result in an enemy surrendering to *precise blows* to its *system*. The *"will"* of the *insurgents* and *terrorists* could not be altered by PGM. As Lawrence Freedman points out, underdogs who know that they have little chance against superior *conventional* forces favor *irregular* forms of warfare.[1282] But still, Airpower proponents retained their EBO thinking throughout these years of *persistent conflict* and COIN.

The Army used the image of a boxing match in the scope of the *AirLand Battle*, using terms such as *"balance"*, *"will"* or *"blows"* against the numerical superior enemy Warsaw Pact. On the other side, the Air Force in the enemy discourse coined the idea of the surgical strike and *paralysis* of the enemy in the scope of the *Effects-based Operations*. Hereby a language was discernible which used words such as *"brain"*, *"heart"*, backbone or *nervous system*. Despite that the enemy was dehumanized alone through the propagated distance from within it was fought and downgraded to a defenseless entity being treated with the *scalpel* on the dissecting table. With COIN the Army then emphasized the *human terrain*, bringing the human element into thinking, but from another perspective. Seemingly, the Army as well used the human element as part of it justifying its mere existence, or at least, the existence

[1281] Lewis, The American Culture of War, p. 393f.
[1282] Freedman, The Counterrevolution in Strategic Affairs, p. 27.

of its heavy units which were capable of *shaping* the *human terrain* in contrast to the Air Forces PGMs. The Air Force or its proponents themselves brought their *air mindedness* into the game in COIN, arguing, that ground forces would be to mentally touched by their fighting close on the ground, becoming less *effective* because of that.

On the part of the Army the tendency of dehumanization is more ambivalent: the *"balance"* of the enemy dominates. *"Maneuver"* and *"firepower"* coin the discourse at (least) until 2001 and are interpreted in a specific American way, the former mostly geographical (so the accusation of *AirLand Battle* by its critics), the latter more technical. Yet even the wars in the Balkans and the intervention in Somalia were harbingers of a war reality, which did not fit as well to ideas such as *Dominant Maneuver* or *Effects-Based Operations*. Krepinevich writes about how the Army tries to fit the war to its own ideas. What began on the onset of the 21st century was a decade-long battle which seemed to be more similar to the Vietnam War than to all that which was propagated until then. Robert M. Gates, *Secretary of Defense* under George W. Bush and Barack Obama, once told Army cadets at West Point that: *"any future defense secretary who advises the president to again send a big American land army into Asia or into the Middle East or Africa should 'have his head examined,' as General MacArthur so delicately put it."*[1283]

But despite of the legacy from Vietnam and the experiences gained in Iraq and Afghanistan, the American-scientific approach to war dominates the discussion heavily in the whole period analyzed. The admonishments made towards the Soviets about them thinking too rigid and scientific seem to be contradictory. Then what could be more scientific than to simulate a battle hundred or even thousand fold with alternating parameters using a computer to determine the best circumstances for a fight? The scientification further gained steam after the 1991 Gulf War; analysis was predominant (*Systems Analysis*) and was further developed by Warden. *"Efficiency"* coined the discourse especially in the scope of EBO and appears as the return of the *managers*, but this time in the Air Force's language. Moreover, the *"efficiency"* thought reflects as well the perceived financial state of the armed forces in the 1990s.

In parallel to the discussions surrounding the key *termini* and buzzwords of the discourses, others can be found which are recurring despite of the technological advances and new

[1283] Shanker, Tom: Warning against Wars like Iraq and Afghanistan, in: New York Times, February 26, 2011, P. A7.

concepts: for example, the *"will"* of the enemy which can be found in most of the Air Force *Manuals*. Other *termini* change or are changed, such as the *center of gravity*, whereas the former seems to be a modern recourse to Clausewitz' *point of main effort* or the United States Armed Forces' interpretation of it, respectively. The Army utilized it in the scope of its occupation with German concepts regarding *AirLand Battle*. The *culminating point* as well is recurring, first with the Army (*Active Defense*), then the Air Force (*Halt Phase*) and the *strategic attack* remains in the discourse, has little significance in the *AirLand Battle* concept, but in return much in EBO. In this context the term *"depth"* plays a big part. At the beginning understood as an only geographical element and viewed in the scope of the *AirLand Battle* as an enlargement of the battlefield, it was steadily enlarged by the Air Force. As, at the outset of the 1990s, the Air Force dominated the *"depth"*, the Army reacted with its own interpretation, the *projection* of military power on a global scale – and *"depth"* would as well feature as a human element later-on in COIN doctrine.

The question is: Will the Army and the Air Force begin a new cycle of doctrinal thinking after COIN, or with *AirSea Battle*, respectively? American military thought tends to be cyclical, with concepts, which often are little more than buzzwords, being heralded as revolutionary or transformational and preparing the future, then quickly going out of fashion, only to reemerge under a new rubric a decade or so later, as Linn describes.[1284] Surely the CSBA's conceptual thought and image of war found its way into official Army and Air Force statements and doctrine documents. Reading through some of the excerpts presented in the third and last part of this thesis, one could conclude that the PRC presented another fatalistic Fulda Gap scenario – or in this case, a new Pearl Harbor envisioned in the Western Pacific. Lewis concludes that *"for half a century, the United States has planned and equipped itself to fight the type of war it wants to fight, not the type of war it is most likely to fight."*[1285] The rebalancing in the United States grand strategy to the Pacific may also be a rebalancing in that it sees a return of the United States Armed Forces back to its comfort zone preparing only for proper wars against other great powers, the *peers*.[1286]

[1284] Linn, The U.S. Armed Forces' View of War, p. 43.
[1285] Lewis, The American Culture of War, p. 378
[1286] Freedman, The Counterrevolution in Strategic Affairs, p. 37.

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VI. Appendix

6.1 Abbreviations

4GW	Fourth Generation Warfare
A2/AD	Anti-access and Area denial
A-AF CLIC	Army-Air Force Center for Low Intensity Conflict
AAN	Army After Next
ADP	Army Doctrine Publication
ADPA	American Defense Preparedness Association
ADRP	Army Doctrine Reference Publication
AEF	Expeditionary Air Force
AFA	Air Force Association
AFDD	Air Force Doctrine Document
AFGSC	Air Force Global Strike Command
AFHRA	Air Force Historical Research Agency
AFM	Air Force Manual
AHEC	Army Heritage and Education Center
AI	Air Interdiction
ALB-F (or ALBF)	AirLand Battle Future
ALFA	Airland Forces Application Agency
AMRAAM	Advanced Medium-Range Air-to-Air Missile
AO	Area of Operations
APC	Armored Personnel Carrier
APDA	Army Physical Disability Agency
ARPA	Advanced Research Projects Agency
ASCM	Anti-Ship Cruise Missile
ASAT	Anti-satellite [Weapon]
ASB	AirSea Battle
ASM	Air-to-Surface-Missile
ATACMS	Army Tactical Missile System
ATF	Advanced Tactical Fighter
ATGM	Anti-Tank Guided Missile

AU	Air University
AUSA	Association of the United States Army
AWACS	Airborne Early Warning and Control System
BAI	Battlefield Air Interdiction
BDA	Battle Damage Assessment
BRD	Bundesrepublik Deutschland
C2	Command and Control
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CAC	United States Army Combined Arms Center
CADD	Combined Arms Doctrine Directorate
CARL	Combined Arms Research Library
CAS	Close Air Support
CENTAF	Central Command Air Forces
CENTCOM	United States Central Command
CIA	Central Intelligence Agency
CINC	Commander-in-Chief
CINCUSAREUR	Commander in Chief of United States Army Europe
CINCPAC	Commander-in-Chief, Pacific Command
CINCREDCOM	Commander-in-Chief, Readiness Command
CJCS	Chairman of the Joint Chiefs of Staff
CG	Commanding General
CO	Commanding Officer
CoG	Center of Gravity
COIN	Counterinsurgency
CONUS	CONtinental United States
CNA	Computer Network Attack
CNO	Chief of Naval Operations
CRS	Congressional Research Service
CSA	Chief of Staff of the Army

CSAF	Chief of Staff of the Air Force
CSAR	Combat Search and Rescue
DARPA	Defense Advanced Research Projects Agency
DDR	Deutsche Demokratische Republik
DE	Directed Energy
DSB	Defense Science Board
EBO	Effects-Based Operations
ESM	Electronic support measures
EW	Electronic Warfare
FAC	Forward Air Controller
FCS	Future Combat System
FEBA	Forward Edge of the Battle Area
FID	Foreign Internal Defense
FLIR	Forward Looking Infrared
FLOT	Forward Line of Troops
FM	Field Manual
FOC	Full Operational Capability
FOFA	Follow-on Forces Attack
FOIA	Freedom of Information Act Request
FRY	Federal Republic of Yugoslavia
FSCL	Fire Support Coordination Line
GAO	Government Accountability Office
GMTI	Ground Moving Target Indicator
GPS	Global Positioning System
HERO	Historical Evaluation and Research Organization
HQ	Headquarters
HUD	Head-up Display
IADS	Integrated Air Defense System
IO	Information Operations
IRBM	Intermediate-range Ballistic Missile
ISB	Intermediate Staging Bases
ISIL	Islamic State of Iraq and the Levant

ISR	Intelligence, Surveillance, Reconnaissance
ISTA	Intelligence, Surveillance, Target Acquisition
IW	Information Warfare
JCS	Joint Chiefs of Staff
JDAM	Joint Direct Attack Munition
JFC	Joint Force Commander or Joint Force Command
JOAC	Joint Operational Access Concept
J-SAK	Joint Second Echelon Attack
J-SEAD	Joint Suppression of Enemy Air Defenses
JSF	Joint Strike Fighter
JSTARS	Joint Surveillance Target Attack Radar System
LAV	Light Armored Vehicle
LCS	Littoral Combat Ship
LGB	Laser Guided Bomb
LLO	Logical Line of Operations
LRS-B	Long Range Strike Bomber
MACV	Military Assistance Command Vietnam
MAGTF	Marine Air-Ground Task Force
MBT	Main Battle Tank
MIRV	Multiple independently targetable reentry vehicle
MLRS	Multiple-launch Rocket System
MNF-I	Multi- National Force-Iraq
MOOTW	Military Operations other than War
MRC	Major Regional Conflict
MTR	Military-Technological Revolution
MTW	Major Theater War
NATO	North Atlantic Treaty Organization
NCA	National Command Authority
NCW	Network-Centric Warfare
NFZ	No-Fly Zone

NIA/D3	Networked, Integrated, Attack-in-Depth to Disrupt, Destroy, Defeat
NTC	National Training Center
OAS	Offensive Air Support
ODCSDOC	Office of the Deputy Chief of Staff of the Army [Doctrine]
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OMG	Operational Maneuver Group
OPFOR	Opposition Force
OUP	Operation Unified Protector
PCC	Pre-Command Course
PGM	Precision Guided Munition
PLA	People's Liberation Army
PLAAF	People's Liberation Army Air Force
PMA	Precision Munition Attack
PRC	People's Republic of China
QDR	Quadrennial Defense Review
RAND	Research and Development
RCS	Radar Cross Section
RDO	Rapid Decisive Operations
REFORGER	Return of Forces to Germany
RMA	Revolution in Military Affairs
RUSI	Royal United Services Institute
SAM	Surface-to-Air Missile
SBCT	Stryker Brigade Combat Team
SEAD	Suppression of Enemy Air Defenses
SLBM	Ship-launched Ballistic Missile
SLOC	Sea Line of Communication
SOF	Special Operations Forces
SOTAS	Stand-off Target Acquisition System
SSI	Strategic Studies Institute

TAC	Tactical Air Command
TACAIR	Tactical Air
TACFIRE	Tactical Fire Direction
TOW	Tube Launched Optically Tracked Wire Guided
TRADOC	Training and Doctrine Command
UDSSR	Union der Sozialistischen Sowjetrepubliken
USAF	United States Air Force
USAAF	United States Army Air Force
USAWC	United States Army War College
USSOCOM	United States Special Operations Command
WMD	Weapon of Mass Destruction

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Publications – Articles

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Sep 2012	Fuhrer, Daniel: From AirLand Battle to Effects-Based Operations: US military strategy and the end of the Cold War, 38th Congress of Military History, August 25 - September 1, 2012, Sofia, Bulgaria.

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Erklärung

Hiermit erkläre ich, dass

die Dissertation von mir selbst ohne unerlaubte Beihilfe verfasst worden ist und diese Dissertation noch an keiner anderen Fakultät eingereicht wurde.

Ort und Datum	Unterschrift
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